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Contents

Federal Register

Vol. 58, No. 148

Wednesday, August 4, 1993

Agency for International Development
NOTICES
Meetings:
International Food and Agricultural Development and Economic Cooperation Board, 41486

Agriculture Department
See Federal Grain Inspection Service
See Forest Service
NOTICES
Agency information collection activities under OMB review, 41457

Census Bureau
RULES
Foreign trade statistics, vessels in foreign and domestic trades, and air commerce regulations:
Shipper's export declarations and outward cargo manifests for shipments to Puerto Rico; procedures for submittal, 41422

Centers for Disease Control and Prevention
NOTICES
Grants and cooperative agreements; availability, etc.:
Occupational safety and health—
Tuberculosis and tuberculous infection in health-care workers, 41482

Child Support Enforcement Office
RULES
Program operations standards:
Federal claims collection; information safeguarding procedures; Federal income tax refund offset, 41432

Coast Guard
RULES
Boating safety:
Equipment requirements, 41602
Regattas and marine parades:
Virginia Beach Offshore Grand Prix, 41428
PROPOSED RULES
Regattas and marine parades:
Blue Angels Airshow, 41449

Commerce Department
See Census Bureau
See National Oceanic and Atmospheric Administration

Customs Service
RULES
Foreign trade statistics, vessels in foreign and domestic trades, and air commerce regulations:
Shipper's export declarations and outward cargo manifests for shipments to Puerto Rico; procedures for submittal, 41422

Defense Department
NOTICES
Meetings:
Wage Committee, 41458

Energy Department
See Federal Energy Regulatory Commission
See Western Area Power Administration
NOTICES
Natural gas exportation and importation:
Conoco, Inc., 41463

Environmental Protection Agency
RULES
Air quality implementation plans; approval and promulgation; various States:
Montana, 41430
Pesticides; tolerances in food, animal feeds, and raw agricultural commodities:
Captan, 41430
PROPOSED RULES
Air quality implementation plans; approval and promulgation; various States:
Wisconsin, 41451
Pesticides; tolerances in food, animal feeds, and raw agricultural commodities:
Clopyralid, 41452
NOTICES
Agency information collection activities under OMB review, 41470
Clean Air Act:
Citizen suits; proposed settlements, 41474
Drinking water:
Public water supply supervision program—
Washington, 41471
Meetings:
FIFRA Scientific Advisory Panel, 41472
Pesticide, food, and feed additive petitions:
Biologic, Inc., et al., 41472
Pesticide residues information system enhancement; document availability, 41471
Pesticides; temporary tolerances:
Entomopathogen beauvaria bassiana, 41473
Reports; availability, etc.:
Neurotoxicity risk assessment principles, 41556
Water pollution; discharge of pollutants (NPDES):
Gulf of Mexico OCS operations, 41474

Executive Office of the President
See Trade Representative, Office of United States

Family Support Administration
See Child Support Enforcement Office

Federal Aviation Administration
RULES
Airworthiness directives:
McDonnell Douglas, 41421
Textron Lycoming, 41419
PROPOSED RULES
Airworthiness directives:
EROS, 41441
Schweizer Aircraft Corp. et al., 41444
Sikorsky Aircraft, 41442

NOTICES
Airport noise compatibility program:
St. Augustine/St. Johns County Airport, FL, 41546
Exemption petitions; summary and disposition, 41549
Technical standard orders:
Anti-blocked channel devices used in two-way radio communications due to simultaneous transmissions, 41550

Federal Energy Regulatory Commission
NOTICES
Electric rate, small power production, and interlocking directorate filings, etc.:
Georgia-Pacific Corp., 41459
Applications, hearings, determinations, etc.:
Allegheny Power Service Co., 41460
Connecticut Light & Power Co., 41460
Hardee Power Partners Ltd., 41460
Michigan Gas Storage Co., 41460
Natural Gas Pipeline Co. of America, 41461
New York State Electric & Gas Co., 41461
Northeast Utilities Service Co., 41461
Pepperell Power Associates Limited Partnership, 41462
Texas Gas Tranmission Corp., 41462
United Illuminating Co., 41462
Williams Natural Gas Co., 41462

Federal Grain Inspection Service
PROPOSED RULES
Grain standards:
Water addition prohibition, 41439

Federal Highway Administration
NOTICES
Environmental statements; notice of intent:
Erie County, PA, 41551

Federal Maritime Commission
NOTICES
Agreements filed, etc., 41480, 41481
Freight forwarder licenses:
John R. Soares & Co. et al., 41480
Organization, functions, and authority delegations:
Tariffs Bureau, Certification and Licensing, Director, 41481

Federal Reserve System
NOTICES
Applications, hearings, determinations, etc.:
Griggsville Bancshares, Inc., 41481
Hallmark Capital Corp., 41481
Magnolia State Corp., 41482

Financial Management Service
See Fiscal Service

Fiscal Service
PROPOSED RULES
Payment to financial institutions for credit to accounts of employees and beneficiaries; miscellaneous amendments, 41449

Fish and Wildlife Service
NOTICES
Endangered and threatened species permit applications, 41485
Marine mammal permit applications, 41485

Food and Drug Administration
PROPOSED RULES
Food for human consumption:
Bottled water; quality standards, 41612
NOTICES
Biological products:
Export applications—
CHIRON RIBA HCV 3.0 SIA, 41484

Forest Service
NOTICES
Appeal exemptions; timber sales:
Umatilla National Forest, OR, 41457
Environmental statements; availability, etc.:
Kisatchie National Forest, LA, 41455
Meetings:
Grand Island Advisory Commission, 41458

Health and Human Services Department
See Centers for Disease Control and Prevention
See Child Support Enforcement Office
See Food and Drug Administration

Housing and Urban Development Department
RULES
Public and Indian housing:
Housing assistance; budget authority allocation, 41426
PROPOSED RULES
Mortgage and loan insurance programs:
Minimum property standards changes; seismic design for housing and swimming pools, 41445

Interior Department
See Fish and Wildlife Service
See Land Management Bureau
See National Park Service

International Development Cooperation Agency
See Agency for International Development

International Trade Commission
NOTICES
Import investigations:
Personal computers with memory management information stored in external memory and related materials, 41486
Sputtered carbon coated computer disks and products containing same, including disk drives, 41487, 41488

Interstate Commerce Commission
NOTICES
Railroad services abandonment:
CSX Transportation, Inc., 41488

Justice Department
See Parole Commission

Labor Department
See Pension and Welfare Benefits Administration

Land Management Bureau
NOTICES
Meetings:
Rawlins District Grazing Advisory Board, 41485
Survey plat filings:
Idaho, 41485

National Credit Union Administration
RULES
Credit unions:
Investment and deposit authority
Correction, 41419

National Oceanic and Atmospheric Administration
RULES
Fishery conservation and management:
Gulf of Alaska groundfish, 41438
South Atlantic snapper-grouper, 41438
PROPOSED RULES
Endangered and threatened species:
Northern right whale—
Critical habitat designation; hearing, 41454
NOTICES
Permits:
Marine mammals, 41458

National Park Service
NOTICES
Meetings:
Cape Krusenstern National Monument and Kobuk Valley National Park Subsistence Resource Commissions, 41486

National Science Foundation
NOTICES
Agency information collection activities under OMB review, 41499
Antarctic Conservation Act of 1978; permit applications, etc., 41499
Meetings; Sunshine Act, 41554

Nuclear Regulatory Commission
NOTICES
Environmental statements; availability, etc.:
North Atlantic Energy Service Corp. et al., 41525
Operating licenses, amendments; no significant hazards considerations; biweekly notices, 41499
Radiation exposure monitoring and information transmittal system; software package availability, 41526
Regulatory guides; issuance, availability, and withdrawal, 41526

Office of United States Trade Representative
See Trade Representative, Office of United States

Parole Commission
NOTICES
Meetings; Sunshine Act, 41554

Pension and Welfare Benefits Administration
NOTICES
Employee benefit plans; prohibited transaction exemptions:
Metropolitan Life Insurance Co. et al., 41489
Peoples National Bank of Lebanon, 41489
Standard Bank Employees et al., 41492

Public Health Service
See Centers for Disease Control and Prevention
See Food and Drug Administration

Securities and Exchange Commission
NOTICES
Meetings; Sunshine Act, 41554
Self-regulatory organizations; proposed rule changes:
Boston Stock Exchange, Inc., 41538
Chicago Board Options Exchange, Inc., 41528
New York Stock Exchange, Inc., 41539
Philadelphia Stock Exchange, Inc., 41527, 41529, 41532, 41535
Self-regulatory organizations; unlisted trading privileges:
Boston Stock Exchange, Inc., 41536
Chicago Stock Exchange, Inc., 41536
Philadelphia Stock Exchange, Inc., 41537
Applications, hearings, determinations, etc.:
Berliner Handels- und Frankfurter Bank et al., 41541
Brazilian Equity Fund, Inc., et al., 41533

Small Business Administration
NOTICES
Disaster loan areas:
Kansas, 41543
Intergovernmental review of agency programs and activities, 41543

Trade Representative, Office of United States
NOTICES
Japan:
Supercomputer agreement, 41552

Transportation Department
See Coast Guard
See Federal Aviation Administration
See Federal Highway Administration

Treasury Department
See Customs Service
See Fiscal Service
NOTICES
Agency information collection activities under OMB review, 41551, 41552

U.S. Commission on Improving Effectiveness of United Nations
NOTICES
Meetings, 41552

Western Area Power Administration
NOTICES
Transmission rate adjustments:
Pacific Northwest-Pacific Southwest Intertie Project, 41463

Separate Parts In This Issue

Part II
Environmental Protection Agency, 41556

Part III
Department of Transportation, Coast Guard, 41602

Part IV
Department of Health and Human Services, Food and Drug Administration, 41612

Reader Aids
Additional information, including a list of public laws, telephone numbers, and finding aids, appears in the Reader Aids section at the end of this issue.

Electronic Bulletin Board
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CFR PARTS AFFECTED IN THIS ISSUE

A cumulative list of the parts affected this month can be found in the Reader Aids section at the end of this issue.

7 CFR
Proposed Rules:
800.....41439

12 CFR
703.....41419

14 CFR
39 (2 documents).....41419
41421
Proposed Rules:
39 (3 documents).....41441,
41442, 41444

15 CFR
30.....41422

19 CFR
4.....41422
122.....41422

21 CFR
Proposed Rules:
103.....41612

24 CFR
791.....41426
Proposed Rules:
200.....41445

31 CFR
Proposed Rules:
209.....41449

33 CFR
100.....41428
175.....41602
181.....41602
Proposed Rules:
100.....41449

40 CFR
52.....41430
186.....41430
Proposed Rules:
52.....41451
180.....41452

45 CFR
301.....41432
303.....41432

46 CFR
160.....41602

50 CFR
646.....41438
672.....41438
Proposed Rules:
226.....41454

Rules and Regulations

Federal Register
Vol. 58, No. 148
Wednesday, August 4, 1993

This section of the FEDERAL REGISTER contains regulatory documents having general applicability and legal effect, most of which are keyed to and codified in the Code of Federal Regulations, which is published under 50 titles pursuant to 44 U.S.C. 1510.

The Code of Federal Regulations is sold by the Superintendent of Documents. Prices of new books are listed in the first FEDERAL REGISTER issue of each week.

NATIONAL CREDIT UNION ADMINISTRATION

12 CFR Part 703

Investment and Deposit Activities

AGENCY: National Credit Union Administration.
ACTION: Final rule; corrections.

SUMMARY: In the **Federal Register** of June 30, 1993, beginning on page 34868 a final rule concerning part 703 (investment and deposit activities) of the NCUA Regulations was published. Inadvertent errors were made in the **SUMMARY** and **SUPPLEMENTARY INFORMATION** sections of the document and in the regulatory language. This document makes the corrections.
EFFECTIVE DATE: August 4, 1993.
ADDRESSES: National Credit Union Administration, 1776 G Street NW., Washington, DC 20456.
FOR FURTHER INFORMATION CONTACT: Dan Gordon, Investment Officer, Office of Examination and Insurance, (800) 755–5999, or Lisa Henderson, Staff Attorney, (202) 682–9630, at the above address.

By the National Credit Union Administration Board on July 20, 1993.
Becky Baker,
Secretary of the Board.

In final rule document 93–15221, beginning on page 34868, in the issue of June 30, 1993, the following corrections are made:

1. On page 34868, in the **SUMMARY** section, third column, first paragraph, remove the third sentence, which begins with, "A floating rate CMO or REMIC * * *"

2. On page 34869, first column, first full paragraph, remove the second sentence which begins with, "The price sensitivity test must be applied * * *"

§ 703.5 [Amended]

3. On page 34870, first column, § 703.5(g)(1)(ii)(A), add the word "sustained" before the word "parallel."

4. On page 34870, first column, § 703.5(g)(2), substitute the words "this paragraph (g)" for the words "paragraph (g) of this section."

5. On page 34870, second column, § 703.5(j)(2), add the word "the" before the word "contractual."

[FR Doc. 93–18573 Filed 8–3–93; 8:45 am]
BILLING CODE 7535–01–M

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 91–ANE–55; Amendment 39–8637; AD 93–14–13]

Airworthiness Directives; Textron Lycoming ALF502R and ALF502L Series Turbofan Engines

AGENCY: Federal Aviation Administration, DOT.
ACTION: Final rule.

SUMMARY: This amendment adopts a new airworthiness directive (AD), applicable to Textron Lycoming ALF502R and ALF502L series turbofan engines, that requires rework of the third stage turbine disk blade slot, and marking the third stage turbine rotor shaft assembly to show compliance with this AD. This amendment is prompted by reports of cracks found at the base of the blade retention rivet slot on 48 turbine disks. The actions specified by this AD are intended to prevent third stage turbine disk failure that can result in inflight engine shutdown.
DATES: Effective October 4, 1993.

The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of October 4, 1993.

ADDRESSES: The service information referenced in this AD may be obtained from Textron Lycoming, 550 Main Street, Stratford, Connecticut 06497. This information may be examined at the Federal Aviation Administration (FAA), New England Region, Office of the Assistant Chief Counsel, 12 New England Executive Park, Burlington, MA; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.
FOR FURTHER INFORMATION CONTACT: Mark Rumizen, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803–5299; telephone (617) 273–7087, fax (617) 270–2412.
SUPPLEMENTARY INFORMATION: A proposal to amend part 39 of the Federal Aviation Regulations to include an airworthiness directive (AD) that is applicable to Textron Lycoming ALF502R and ALF502L series turbofan engines was published in the **Federal Register** on August 19, 1992 (57 FR 37488). That action proposed to require rework of the third stage rotor turbine disk blade slot to eliminate stress concentrations in the blade retention rivet slot. That action also proposed to require marking the third stage turbine rotor shaft assembly.

The FAA referred in the NPRM to Textron Lycoming SB No. ALF502R 72–270, and ALF502L 72–720, both dated May 21, 1991. Textron Lycoming has issued Service Bulletin (SB) No. ALF502R 72–270, Revision 1, dated March 31, 1992, and SB No. ALF502L 72–270, dated April 30, 1993. This final rule has been modified accordingly to reflect the updated versions of these service bulletins.

Interested persons have been afforded an opportunity to participate in the making of this amendment. The FAA received one comment which expressed no objection to the proposal or the FAA's determination of the cost to the public. After careful review of the available data, including the comments noted above, the FAA has determined that air safety and the public interest require the adoption of the rule as proposed.

There are approximately 900 ALF502R and ALF502L turbofan engines of the affected design in the worldwide fleet. The FAA estimates that 300 engines installed on aircraft of U.S. registry will be affected by this AD, that it will take approximately 10 work hours per engine to accomplish the required actions, and that the average labor rate is $55 per work hour. Required parts will cost approximately $30 per engine. Based on these figures, the total cost impact of the AD on U.S. operators is estimated to be $174,000.

The regulations adopted herein will not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and

responsibilities among the various levels of government. Therefore, in accordance with Executive Order 12612, it is determined that this final rule does not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

For the reasons discussed above, I certify that this action (1) is not a "major rule" under Executive Order 12291; (2) is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and (3) will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act. A final evaluation has been prepared for this action and it is contained in the Rules Docket. A copy of it may be obtained from the Rules Docket at the location provided under the caption "ADDRESSES."

List of Subjects in 14 CFR Part 39

Air Transportation, Aircraft, Aviation Safety, Incorporation by reference, Safety.

Adoption of the Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration amends 14 CFR part 39 of the Federal Aviation Regulations as follows:

PART 39—AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. App. 1354(a), 1421 and 1423; 49 U.S.C. 106(g); and 14 CFR 11.89.

§ 39.13 [Amended]

2. Section 39.13 is amended by adding the following new airworthiness directive:

93-14-13 Textron Lycoming: Amendment 39-8637. Docket 91-ANE-55.

Applicability: Textron Lycoming ALF502R and ALF502L turbofan engines installed on but not limited to British Aerospace BAe-146 and Canadair Challenger CL600 aircraft.

Compliance: Required as indicated, unless accomplished previously.

To prevent third stage turbine disk failure, which could result in engine shutdown, accomplish the following:

(a) For ALF502R series engines with installed third stage turbine rotor shaft assemblies, Part Number (P/N) 2-143-040-12, P/N 2-143-040-15, or P/N 2-143-040-16, rework the third stage turbine disk blade slots and mark the third stage turbine assembly with a new part number in accordance with the Accomplishment Instructions of Textron Lycoming Service Bulletin (SB) No. ALF502R 72-270, dated March 31, 1992, or replace with a serviceable part as follows:

(1) For third stage turbine disks with 15,000 or more cycles in service (CIS) on the effective date of this AD, within 1,000 CIS after the effective date of this AD.

(2) For third stage turbine disks with 10,000 or more CIS but less than 15,000 CIS on the effective date of this AD, within 1,000 CIS, after the effective date of this AD, or at the next shop visit, whichever occurs later, but prior to accumulating 16,000 CIS since new.

(3) For third stage turbine disks with less than 10,000 CIS on the effective date of this AD, at the next blade removal, but prior to accumulating 13,000 CIS since new.

(4) For third stage turbine disks not reworked in accordance with the requirements of this AD and installed on Textron ALF-502R engines as replacement disks when complying with this paragraph, accomplish the requirements of this paragraph as to that replacement disk.

(b) For ALF502L series engines with installed third stage turbine rotor shaft assemblies, Part Number (P/N) 2-143-040-10, P/N 2-143-040-11, P/N 2-143-040-12, P/N 2-143-040-15, or P/N 2-143-040-16, rework the third stage turbine disk blade slots and mark the third stage turbine assembly with a new part number in accordance with the Accomplishment Instructions of Textron Lycoming SB ALF502L 72-270, dated April 30, 1993, or replace with a serviceable part as follows:

(1) For third stage turbine disks with 15,000 or more CIS on the effective date of this AD, within 1,000 CIS after the effective date of this AD.

(2) For third stage turbine disks with 10,000 or more CIS but less than 15,000 CIS on the effective date of this AD, within 1,000 CIS after the effective date of this AD or at the next shop visit, whichever occurs later, but prior to accumulating 16,000 CIS since new.

(3) For third stage turbine disks with less than 10,000 CIS on the effective date of this AD, at the next blade removal, but prior to accumulating 13,000 CIS since new.

(4) For third stage turbine disks not reworked in accordance with the requirements of this AD and installed on Textron Lycoming ALF-502L engines as replacement disks when complying with this paragraph, accomplish the requirements of this paragraph as to that replacement disk.

(c) For the purpose of this AD, a shop visit is defined as the induction of an engine into a shop for maintenance.

(d) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Manager, Engine Certification Office. The request should be forwarded through an appropriate FAA Principal Maintenance Inspector, who may add comments and then send it to the Manager, Engine Certification Office.

Note: Information concerning the existence of approved alternative methods of compliance with this airworthiness directive, if any, may be obtained from the Engine Certification Office.

(e) Special flight permits may be issued in accordance with FAR 21.197 and 21.199 to operate the airplane to a location where the requirements of this AD can be accomplished.

(f) The rework and reidentification shall be done in accordance with the following Textron Lycoming service bulletins:

Document No.	Pages	Revision	Date
ALF502R 72-270	1-4	1	March 31, 1992.
	5	Original	June 28, 1991.
	6-7	1	March 31, 1992.
	8-10	Original	June 28, 1991.
Total pages: 10			
ALF502L 72-270	1-13	Original	April 30, 1993.
Total pages: 13			

This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be obtained from Textron Lycoming, 550 Main Street, Stratford, Connecticut 06497. Copies may be inspected at the FAA, New England Region, Office of the Assistant Chief Counsel, 12 New England Executive Park, Burlington, MA; or at the Office of the Federal Register, 800 North Capitol Street NW., suite 700, Washington, DC.

(g) This amendment becomes effective on October 4, 1993.

Issued in Burlington, Massachusetts, on July 15, 1993.

Jack A. Sain,

Manager, Engine and Propeller Directorate, Aircraft Certification Service.

[FR Doc. 93-18514 Filed 8-3-93; 8:45 am]

BILLING CODE 4910-13-P

14 CFR Part 39

[Docket No. 93–NM–114–AD; Amendment 39–8649; AD 93–15–03]

Airworthiness Directives; McDonnell Douglas Model MD–11 Series Airplanes

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule; request for comments.

SUMMARY: This amendment adopts a new airworthiness directive (AD) that is applicable to certain McDonnell Douglas Model MD–11 series airplanes. This action requires installing a retainer assembly on the upper pedestal flap/slat control module quadrant in the flight compartment. This amendment is prompted by several incidents of inadvertent slat deployment during flight at cruise altitude. The actions specified in this AD are intended to prevent inadvertent slat deployment during flight at cruise altitude, which could result in abrupt pitch up and consequent injury to crew and passengers. Inadvertent slat deployment also could create significant vibrations and cause damage to the elevators.

DATES: Effective August 4, 1993.

The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of August 4, 1993.

Comments for inclusion in the Rules Docket must be received on or before October 4, 1993.

ADDRESSES: Submit comments in triplicate to the Federal Aviation Administration (FAA), Transport Airplane Directorate, ANM–103, Attention: Rules Docket No. 93–NM–114–AD, 1601 Lind Avenue, SW., Renton, Washington 98055–4056.

The service information referenced in this AD may be obtained from McDonnell Douglas Corporation, P.O. Box 1771, Long Beach, California 90801–1771, Attention: Business Unit Manager, Technical Publications—Technical Administrative Support, C1–L5B. This information may be examined at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington; or at the FAA, Transport Airplane Directorate, Los Angeles Aircraft Certification Office, 3229 East Spring Street, Long Beach, California; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

FOR FURTHER INFORMATION CONTACT: Maureen Moreland, Aerospace Engineer, Airframe Branch, ANM–121L, FAA, Transport Airplane Directorate, Los Angeles Aircraft Certification Office, 3229 East Spring Street, Long Beach, California 90806–2425; telephone (310) 988–5238; fax (310) 988–5210.

SUPPLEMENTARY INFORMATION: There have been several incidents of inadvertent slat deployment on certain Model MD–11 series airplanes during flight at cruise altitude. In some cases, inadvertent slat deployment has been attributed to the flightcrew members inadvertently bumping the slat/flap handle. Testing by the manufacturer indicates that bumping the flap/slat handle forward and upward can cause the handle to come out of the up/retract detent. Subsequently, the handle can move aft and extend the slats. If the slats are inadvertently deployed during flight at cruise altitude, an abrupt pitch up could occur, which could cause injury to crew and passengers. Inadvertent slat deployment also could cause the airplane to enter the stall buffet flight regime, which could cause vibration in the horizontal stabilizer and subsequent damage to the elevators.

The FAA has reviewed and approved McDonnell Douglas MD–11 Alert Service Bulletin A27–38, dated July 8, 1993, that describes procedures for installing a retainer assembly on the upper pedestal flap/slat control module quadrant in the flight compartment. Installing the retainer assembly will provide a means for locking the flap/slat handle in the up/retract position, thus preventing inadvertent slat deployment.

Since an unsafe condition has been identified that is likely to exist or develop on other McDonnell Douglas Model MD–11 series airplanes of the same type design, this AD is being issued to prevent inadvertent slat deployment during flight at cruise altitude. This AD requires installing a retainer assembly on the upper pedestal flap/slat control module quadrant in the flight compartment. The action is required to be accomplished in accordance with the service bulletin described previously.

Operators should note that the FAA previously issued AD 92–26–03, Amendment 39–8430 (57 FR 57906, December 8, 1992), to require installing a cover on the flap/slat control module quadrant in the flight compartment. That AD also was prompted by an incident of inadvertent slat deployment during flight at cruise altitude. Installing the protective cover prevents inadvertent depressing of the zero degree detent gate while the flap/slat handle is stowed, which could lead to uncommanded slat extension. Installing a retainer assembly, as is required by this amendment, is in addition to the installation of the cover required by AD 92–26–03, and provides additional protection against inadvertent slat deployment.

This action (as well as AD 92–26–03) is considered to be interim action until final action is identified. The manufacturer is currently redesigning the MD–11 slat system. The FAA may consider further rulemaking upon completion of the redesign.

Since a situation exists that requires the immediate adoption of this regulation, it is found that notice and opportunity for prior public comment hereon are impracticable, and that good cause exists for making this amendment effective in less than 30 days.

Comments Invited

Although this action is in the form of a final rule that involves requirements affecting flight safety and, thus, was not preceded by notice and an opportunity for public comment, comments are invited on this rule. Interested persons are invited to comment on this rule by submitting such written data, views, or arguments as they may desire. Communications shall identify the Rules Docket number and be submitted in triplicate to the address specified under the caption "ADDRESSES." All communications received on or before the closing date for comments will be considered, and this rule may be amended in light of the comments received. Factual information that supports the commenter's ideas and suggestions is extremely helpful in evaluating the effectiveness of the AD action and determining whether additional rulemaking action would be needed.

Comments are specifically invited on the overall regulatory, economic, environmental, and energy aspects of the rule that might suggest a need to modify the rule. All comments submitted will be available, both before and after the closing date for comments, in the Rules Docket for examination by interested persons. A report that summarizes each FAA-public contact concerned with the substance of this AD will be filed in the Rules Docket.

Commenters wishing the FAA to acknowledge receipt of their comments submitted in response to this notice must submit a self-addressed, stamped postcard on which the following statement is made: "Comments to Docket Number 93–NM–114–AD." The postcard will be date stamped and returned to the commenter.

The regulations adopted herein will not have substantial direct effects on the

States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, in accordance with Executive Order 12612, it is determined that this final rule does not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

The FAA has determined that this regulation is an emergency regulation and that it is not considered to be major under Executive Order 12291. It is impracticable for the agency to follow the procedures of Order 12291 with respect to this rule since the rule must be issued immediately to correct an unsafe condition in aircraft. It has been determined further that this action involves an emergency regulation under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979). If it is determined that this emergency regulation otherwise would be significant under DOT Regulatory Policies and Procedures, a final regulatory evaluation will be prepared and placed in the Rules Docket. A copy of it, if filed, may be obtained from the Rules Docket at the location provided under the caption "ADDRESSES."

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

Adoption of the Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration amends 14 CFR part 39 of the Federal Aviation Regulations as follows:

PART 39—AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. App. 1354(a), 1421 and 1423; 49 U.S.C. 106(g); and 14 CFR 11.89.

§ 39.13 [Amended]

2. Section 39.13 is amended by adding the following new airworthiness directive:

93–15–03 McDonnell Douglas: Amendment 39–8649. Docket 93–NM–114–AD.

Applicability: Model MD–11 series airplanes; fuselage numbers 447 through 546 inclusive; certificated in any category.

Compliance: Required as indicated, unless accomplished previously.

To prevent inadvertent slat deployment during flight at cruise altitude, accomplish the following:

(a) Within 15 days after the effective date of this AD, install a retainer assembly on the upper pedestal flap/slat control module quadrant in the flight compartment, in accordance with McDonnell Douglas MD–11 Alert Service Bulletin A27–38, dated July 8, 1993.

(b) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Manager, Los Angeles Aircraft Certification Office (ACO), FAA, Transport Airplane Directorate. Operators shall submit their requests through an appropriate FAA Principal Maintenance Inspector, who may add comments and then send it to the Manager, Los Angeles ACO.

Note: Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Los Angeles ACO.

(c) Special flight permits may be issued in accordance with FAR 21.197 and 21.199 to operate the airplane to a location where the requirements of this AD can be accomplished.

(d) The installation shall be done in accordance with McDonnell Douglas MD–11 Alert Service Bulletin A27–38, dated July 8, 1993. This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be obtained from McDonnell Douglas Corporation, P.O. Box 1771, Long Beach, California 90801–1771, Attention: Business Unit Manager, Technical Publications—Technical Administrative Support, C1–L5B. Copies may be inspected at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington; or at the FAA, Transport Airplane Directorate, Los Angeles Aircraft Certification Office, 3229 East Spring Street, Long Beach, California; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

(e) This amendment becomes effective on August 4, 1993.

Issued in Renton, Washington, on July 23, 1993.

Darrell M. Pederson,

Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.

[FR Doc. 93–18498 Filed 8–3–93; 8:45 am]

BILLING CODE 4910–13–M

DEPARTMENT OF COMMERCE

Bureau of the Census

15 CFR Part 30

DEPARTMENT OF THE TREASURY

Customs Service

19 CFR Parts 4 and 122

[T.D. 93–61]
[Docket No. 921057–3155]

RIN 0607–AA15

Amendments to the Foreign Trade Statistics, Vessels in Foreign and Domestic Trades, and Air Commerce Regulations

AGENCIES: Bureau of the Census, Commerce and U.S. Customs Service, Treasury.

ACTION: Final rule.

SUMMARY: This rule amends both the Foreign Trade Statistics Regulations (FTSR) of the Census Bureau and the U.S. Customs Regulations to change the procedure for carriers submitting Shipper's Export Declarations (SEDs) and outward cargo manifests for shipments from the United States to Puerto Rico. Effective October 1, 1993, exporting carriers will submit the SEDs and outward cargo manifest for such shipments to the District Director of Customs in Puerto Rico rather than at the port of departure. Furthermore, aircraft carrying merchandise on direct flights between the United States and Puerto Rico will be required to file modified manifests. This action will improve the accuracy and coverage of the statistics on shipments from the United States to Puerto Rico.

EFFECTIVE DATE: October 1, 1993.

FOR FURTHER INFORMATION CONTACT: Harold L. Blyweiss, Chief, Regulations Branch, Foreign Trade Division, Bureau of the Census, (301) 763–5310.

SUPPLEMENTARY INFORMATION: Trade between the United States and Puerto Rico is significant. In 1992, two-way trade amounted to $28.4 billion. If Puerto Rico were an independent country, it would rank tenth in U.S. exports ($10.8 billion) and eighth in U.S. imports ($17.6 billion) with total trade slightly less than U.S. trade with France. The quality of such data is in question because some exporters and carriers treat such shipments as "domestic" and are unfamiliar with the requirements for SEDs and manifests. Also, since Puerto Rico is inside the Customs Territory of the United States, such shipments do not receive the same

scrutiny by the Customs Service as a shipment to a foreign country. Over the past five years increased scrutiny of documentation requirements for shipments from Puerto Rico to the United States, by both the Census Bureau and the Customs Service, resulted in a marked improvement in the accuracy and completeness of the northbound data. Applying this experience to southbound shipments, these amendments will allow better scrutiny for compliance, at lower cost, by both the Census Bureau and the Customs Service by providing for filing these SEDs and manifests in Puerto Rico rather than at the various ports of departure in the United States. Additionally, the Census Bureau established an office in Puerto Rico to process SEDs for all shipments to and from the United States. This rule affects only carriers transporting merchandise between the United States and Puerto Rico. It does not change any requirements for exporters. The Notice of Proposed Rulemaking published in the Federal Register on November 30, 1992 (57 FR 56531), proposed amending both the FTSR and the Customs Regulations to require carriers transporting merchandise from the United States to Puerto Rico to submit their SEDs and outward cargo manifests for such shipments to the District Director of Customs in Puerto Rico rather than at the port of departure. Interested parties were given 60 days from the date of publication in the Federal Register (November 30, 1992 to January 29, 1993) to submit their comments regarding the notice.

Discussion of Major Comments

The Census Bureau and the U.S. Customs Service received eight comments regarding the proposed amendments. One of the comments was not germane to the proposal. One comment favored the proposal on the basis that it will provide improved accuracy and coverage of the statistics. The comments of one vessel carrier consisted of a request for permission to continue a practice, initiated in 1978, that allowed them to file SEDs in weekly batches rather than by individual ship. While this procedure simplifies document handling by the carrier, it does not allow for any governmental verification or check against the manifest that we are, in fact, receiving all required SEDs. Moving the collection of both the manifest and SEDs to Puerto Rico will provide for such scrutiny. Therefore, we are eliminating this special batch filing procedure at such time as this rule becomes effective. Another vessel carrier suggested that we clarify the regulations by adding new subsections relating only to shipments between the United States and Puerto Rico rather than integrating them in the present provisions. To do so would require duplicating most of the provisions of §§ 30.20 through 30.24. This carrier also raised questions relating to the possible introduction of Customs' automated export system for filing both manifests and SEDs. Any carrier, exporter, or freight forwarder participating in either the Customs' or Census Bureau's automated program for reporting manifests and/or SEDs electronically will not be required to file duplicate information in hard copy form. Furthermore, participants in the Census Bureau's Automated Export Reporting Program will continue to file their reports directly with the Census Bureau. Two air express carriers and two associations of air carriers raised objections based on potential cost and burden as well as declaring the proposed rule unnecessary. They proposed alternatives including:

(1) Enforcing current regulations in the U.S. ports of export,

(2) Obtaining the data from the carrier's manifest, or

(3) Obtaining the data from the Puerto Rican Tax Authority. In response, the government determined that: (1) Enforcing current regulations in each of the over 200 ports would be much more costly to the government as well as the carriers and providing one location for filing of all documentation will ensure equal and consistent enforcement in all cases, (2) the carrier's manifest simply does not provide sufficient information to produce quality statistics (neither the Schedule B commodity number nor the value are reported on the manifest), and (3) the Puerto Rican Tax Authority does not obtain information in such detail to produce similar statistics—the Puerto Rican Tax Authority does not share information with the Census Bureau. Because most shipments transported to Puerto Rico by air are low valued and do not require SEDs, we are modifying the proposal. Rather than requiring a complete manifest (§ 30.21(b)), we will allow air carriers transporting merchandise between the United States and Puerto Rico to report, in addition to those items requiring SEDs, a single line of information on their Customs' manifests summarizing all shipments exempt from SED reporting requirements. This summary information will include the number of packages and a total weight in kilograms for such exempt shipments. Furthermore, the air waybills for all cargo must be available, in the port of entry or departure in Puerto Rico, for inspection by Customs and/or the Census Bureau.

Regulatory Impact Analysis and Information Collection

These amendments do not meet the criteria of a major rule as set forth in section 1(b) of Executive Order 12291; therefore, no Regulatory Impact Analysis is required. This rule does not contain policies with Federalism implications sufficient to warrant preparation of a Federalism Assessment under Executive Order 12612. Pursuant to the provisions of the Regulatory Flexibility Act of 1980 (Pub. L. 96–354), the General Counsel of the Department of Commerce and the Commissioner of Customs certified to the Small Business Administration that these amendments will not have a significant economic effect on a substantial number of small entities because they only change the place of filing shipping documents by exporting carriers. The Census Bureau's information collection requirements involved in this rule are cleared under OMB Control Nos. 0607–0001, –0018, and –0152 pursuant to the Paperwork Reduction Act of 1980 (Pub. L. 96–511).

List of Subjects

15 CFR Part 30

Economic statistics, Foreign trade, Reporting and recordkeeping requirements.

19 CFR Part 4

Customs duties and inspection, Exports, Freight, Harbors, Maritime carriers, Reporting and recordkeeping requirements, Vessels.

19 CFR Part 122

Administrative practice and procedure, Air carriers, Aircraft, Airports, Customs duties and inspection, Freight, Penalties, Reporting and recordkeeping requirements.

To effect these changes, the Foreign Trade Statistics Regulations (15 CFR part 30) and the Customs Regulations (19 CFR parts 4 and 122) are amended as set forth below:

Title 15—Commerce and Foreign Trade

PART 30—FOREIGN TRADE STATISTICS

1. The authority citation for 15 CFR part 30 is revised to read as follows:

Authority: 5 U.S.C. 301; 13 U.S.C. 301–307; Reorganization Plan No. 5 of 1950 (3 CFR 1949–1953 Comp., p. 1004), Department of Commerce Organization Order No. 35–2A, August 4, 1975, 40 FR 42765.

2. Section 30.20 is amended by revising the first sentence of paragraph

(a), redesignating paragraphs (b) and (c) as paragraphs (c) and (d), respectively, and adding new paragraph (b) to read as follows:

§ 30.20 General statement of requirement for the filing of manifests and Shipper's Export Declarations by carriers.

(a) Carriers transporting merchandise from the United States, Puerto Rico, or U.S. Possessions to foreign countries; from the United States or Puerto Rico to the Virgin Islands of the United States; or from Puerto Rico to the United States shall not be granted clearance, where clearance is required, and shall not depart, where clearance is not required, until manifests (for vessels, aircraft, and rail carriers) and Shipper's Export Declarations have been filed with the Customs Director as specified in paragraphs (b) through (d) of this section, except as provided in § 30.24.

* * *

(b) For carriers transporting merchandise from the United States to Puerto Rico, the complete manifest, as required, and all required Shipper's Export Declarations shall be filed within one business day after arrival, as defined in 19 CFR 4.2(b), with the Customs Director in Puerto Rico, except as provided in § 30.24.

* * * * *

3. Section 30.21 is amended by revising paragraphs (a) and (b) to read as follows:

§ 30.21 Requirements for the filing of manifests.

(a) *Vessels.* Vessels transporting merchandise as specified in § 30.20 (except vessels exempted by paragraph (d) of this section) shall file a complete Cargo Declaration, Customs Form 1302, or a Cargo Declaration Outward With Commercial Forms, Customs Form 1302–A, either form with copies of bills of lading or equivalent commercial forms relating to all cargo encompassed by the manifest attached thereto. The manifest shall be filed with the Customs Director at the respective ports where the merchandise is laden (for shipments from the United States to Puerto Rico, the manifest shall be filed with the Customs Director in the port where the merchandise is unladen in Puerto Rico), and shall show the destination of the vessel and list all the cargo so laden. For each item of cargo, the manifest shall show a description of the articles, contents, quantities, and values; however, a notation on the Cargo Declaration that values are as stated on the Shipper's Export Declarations, copies of which are attached to such manifest, will be accepted. There shall also be shown for each item of cargo the bill of lading number on the Shipper's Export Declaration covering the item, except that bill of lading numbers are not required on manifests covering cargo destined for Canada or a nonforeign area. If an item on a Cargo Declaration is one for which a Shipper's Export Declaration is not required, a notation shall be inserted on the Cargo Declaration as to the basis for the exemption with a reference to the number of the section in the regulations where the particular exemption is provided. The bills of lading, cargo lists, or other commercial forms must be securely attached to the Cargo Declaration in such manner as to constitute one document; that they are incorporated by suitable reference on the face of the form such as "Cargo as per bills of lading attached," or "Cargo as per commercial forms attached," and that there is shown on the face of each bill the information required by the Cargo Declaration for the cargo covered by that document. The manifest of vessels (including vessels taking bunker fuel to be laden aboard vessels on the high seas) clearing for foreign countries shall also show the quantities and values of bunker fuel taken aboard at that port for fueling use of the vessel, apart from such quantities as may have been laden on vessels as cargo. The quantity of coal shall be reported in metric tons (2240 pounds), and the quantity of fuel oil shall be reported in barrels of 158.98 liters (42 gallons). Fuel oil shall be described in such manner as to identify diesel oil as distinguished from other types of fuel oil.

(b) *Aircraft.* Aircraft transporting merchandise as specified in § 30.20 shall file a complete manifest on Customs Form 7509. Such manifest shall be filed with the Customs Director at the respective ports where the merchandise is laden (for shipments from the United States to Puerto Rico, the manifests shall be filed with the Customs Director in the port where the merchandise is unladen in Puerto Rico) aboard the aircraft that is to carry the merchandise to the foreign country or to its ultimate destination in a nonforeign area, and shall list all the cargo so laden and show, for each item, the air waybill number or marks and numbers on packages, the number of packages, and the nature of the goods, except as otherwise provided in this paragraph (b). In addition, for any item for which a Shipper's Export Declaration is not required under the regulations in this part, a notation as to the basis for the exemption with a reference to the number of the section in this part where the particular exemption is provided, shall be inserted on the manifest, or on the waybill filed in lieu of listing on the manifest. In the case of shipments on an air waybill, a copy of each document may be attached to the cargo manifest, the numbers of such air waybills listed in the body of the manifest, and the statement "Cargo as per Air Waybills Attached" noted on the manifest. On direct departures only, for shipments requiring a Shipper's Export Declaration a copy of each declaration may be attached to the cargo manifest. In such case the air waybill numbers of such declarations shall be listed on the cargo manifest in the column for air waybill numbers, and the statement "Cargo as per SEDs Attached" noted on the manifest. Under this alternative procedure, any shipments not requiring a Shipper's Export Declaration shall be listed on the manifest, and a notation as to the basis for the exemption with a reference to the number of the section in this part where the particular exemption is provided, shall be shown. For aircraft transporting merchandise between the United States and Puerto Rico, the manifest shall consist of full detail for cargo requiring Shipper's Export Declarations and summary information for cargo exempt for Shipper's Export Declaration requirements. This summary information will include, on a single line, the total number of packages and the total weight, in kilograms, of such exempt shipments. Additionally, the air waybills for all shipments must be available, in the port of arrival or departure in Puerto Rico, for inspection by Customs and/or the Census Bureau.

* * * * *

4. Section 30.22 is amended by revising paragraph (a) to read as follows:

§ 30.22 Requirements for the filing of Shipper's Export Declarations by departing carriers.

(a) To meet the requirements of § 30.20 for the filing of Shipper's Export Declarations, every departing carrier transporting merchandise as specified in § 30.20, including vessels, aircraft, rail carriers, trucks and other vehicles, ferries, and every other carrier shall deliver to the Customs Director at the port of exportation (for shipments from the United States to Puerto Rico, at the port of arrival in Puerto Rico), with the manifest of the carrier, if a manifest is required by the regulations in this part, Shipper's Export Declarations prepared and signed by the exporters, or their agents, covering all the cargo for which such Shipper's Export Declarations are required by the regulations in this part.

* * * * *

5. Section 30.24 is amended by revising paragraphs (a) introductory text and (a)(1) to read as follows:

§ 30.24 Clearance or departure of carriers under bond on incomplete manifest or Shipper's Export Declarations.

(a) For purposes of the regulations in this part, except when carriers are transporting merchandise from the United States to Puerto Rico, clearance (where clearance is required) or permission to depart (where clearance is not required) may be granted to any carrier by the Customs Director prior to the filing of a complete manifest as required under the regulations in this part, or prior to the filing by the carrier of all required Shipper's Export Declarations, provided that a bond as specified in paragraph (b) of this section is filed with the Customs Director. The condition of the bond shall be that a complete manifest, where a manifest is required by the regulations in this part and all required Shipper's Export Declarations, shall be filed by the carrier not later than the fourth business day after clearance (where clearance is required) or departure (where clearance is not required) of the carrier except as otherwise specifically provided in paragraphs (a) (1) and (2) of this section. For carriers transporting merchandise from the United States to Puerto Rico, if the complete manifest, as required, and all required Shipper's Export Declarations are not available for filing with the Customs Director in Puerto Rico within one business day after arrival, a bond, as specified in paragraph (b) of this section shall be filed with the Customs Director in Puerto Rico.

(1) For shipments aboard a U.S. flag carrier between the United States and Puerto Rico, or from the United States or Puerto Rico to the Virgin Islands of the United States, the condition of the bond shall be that a complete manifest (where a manifest is required) and all required Shipper's Export Declarations shall be filed by the carrier not later than the seventh business day after departure or in the case of shipments from the United States to Puerto Rico, the seventh business day after arrival.

* * * * *

Title 19—Customs Duties

PART 4—VESSELS IN FOREIGN AND DOMESTIC TRADES

6. The general authority citation for 19 CFR part 4 and the specific authority for § 4.84 would continue to read as follows:

Authority: 5 U.S.C. 301; 19 U.S.C. 66, 1624; 46 U.S.C. 2103 and 46 U.S.C. App. 3;

* * * * *

Section 4.84 also issued under 13 U.S.C. 303; 19 U.S.C. 1433, 1435, 1437; 46 U.S.C. App. 91, 313, 314, 883–1;

* * * * *

7. Section 4.84 is amended by revising paragraph (c) to read as follows:

§ 4.84 Trade with noncontiguous territory.

* * * * *

(c)(1) A vessel which is not required to clear but which is transporting merchandise from a port in any State or the District of Columbia to any noncontiguous territory of the United States (excluding Puerto Rico), or from Puerto Rico to any State or the District of Columbia, or any other noncontiguous territory, shall not be permitted to depart without filing a complete manifest, when required by regulations of the Bureau of the Census (15 CFR part 30), and all required Shipper's Export Declarations, unless before the vessel departs an approved bond is filed for the timely production of the required documents, as specified in 15 CFR 30.24. Requests for permission to depart may be written or oral and permission to depart shall be granted orally by the appropriate Customs officer. However, if the request is to depart prior to the filing of the required manifest and export declarations, permission shall not be granted unless the appropriate bond is on file. In the latter case, the Customs officer shall keep a simplified record of the necessary information in order to assure that the manifest and export declarations are filed within the required time period. The Master's Oath on Entry of Vessel in Foreign Trade, Customs Form 1300 (see § 4.63(a)), required at the time of clearance is not required to be taken to obtain permission to depart.

(2) A vessel which is not required to clear but which is transporting merchandise from a port in any State or the District of Columbia to Puerto Rico shall file a complete manifest, when required by the regulations of the Bureau of the Census (15 CFR part 30), and all required Shipper's Export Declarations within one business day after arrival, as defined in § 4.2(b) of this part, with the appropriate Customs officer in Puerto Rico. If the complete manifest and all required Shipper's Export Declarations are not filed with the appropriate Customs officer within that time frame, an appropriate bond shall be filed with the Customs officer for the timely production of the required documents as specified in 15 CFR 30.24. In these instances when a bond is filed, the Customs officer shall keep a simplified record of the necessary information in order to ensure that the manifest and export declarations are filed not later than the seventh business day after arrival in Puerto Rico.

* * * * *

PART 122—AIR COMMERCE REGULATIONS

8. The authority for 19 CFR part 122 continues to read as follows:

Authority: 5 U.S.C. 301; 13 U.S.C. 303; 19 U.S.C. 58b, 66, 1433, 1436, 1459, 1590, 1594, 1623, 1624, 1644; 49 U.S.C. App. 1509.

9. Section 122.62 is amended by revising paragraph (a) to read as follows:

§ 122.62 Aircraft not otherwise required to clear.

(a) *Bureau of the Census.* Under Bureau of the Census Regulations (15 CFR part 30), aircraft not required to clear by § 122.61 shall obtain permission to depart if carrying merchandise from the U.S. to Puerto Rico or from Puerto Rico to the U.S.

* * * * *

10. Section 122.74 is amended by revising paragraphs (a) and (c)(2) to read as follows:

§ 122.74 Incomplete (pro-forma) manifest.

(a) *Application—*(1) *Shipments to foreign countries.* Except for aircraft bound for foreign locations referred to in paragraph (b) of this section, clearance, or permission to depart may be given to an aircraft bound for a foreign location by the district director in the port of departure before a complete manifest or all required Shipper's Export Declarations have been filed, if a proper bond is filed on Customs Form 301, containing the bond conditions set forth in subpart G of part 113 of this chapter.

(2) *Shipments to Puerto Rico.* As provided in § 122.79 (b), any required air cargo manifest or Shipper's Export Declarations for direct flights between the U.S. and Puerto Rico shall be filed with the appropriate Customs officer upon arrival in Puerto Rico. If any required manifest or Shipper's Export Declarations are not filed with the appropriate Customs officer within one business day after arrival in Puerto Rico, a proper bond shall be filed at that time on Customs Form 301, containing the bond conditions set forth in subpart G of part 113 of this chapter.

* * * * *

(c) * * *

(2) *Shipments to and from Puerto Rico.* For shipments from the U.S. to Puerto Rico, the complete manifest (when required) and all required

Shipper's Export Declarations shall be filed not later than the seventh business day after arrival into Puerto Rico. For shipments from Puerto Rico to the U.S., the complete manifest (when required) and all required Shipper's Export Declarations shall be filed not later than the seventh business day after departure from Puerto Rico.

* * * * *

11. Section 122.76 is revised to read as follows:

§ 122.76 Shipper's Export Declarations and inspection certificates.

(a) *Shipper's Export Declarations*—(1) *Other than shipments to Puerto Rico.* For shipments other than to Puerto Rico, at the time of clearance, the aircraft commander or agent shall file with the district director at the departure airport any Shipper's Export Declarations required by the Bureau of the Census (see 15 CFR part 30).

(2) *Shipments to Puerto Rico.* For flights carrying shipments to Puerto Rico from the U.S., the aircraft commander or agent shall file any Shipper's Export Declarations required by the Bureau of the Census (see 15 CFR part 30) upon arrival in Puerto Rico with the district director there.

(b) *Inspection certificates.* The aircraft commander or authorized agent shall deliver a proper export inspection certificate issued by the Veterinary Service, Animal and Plant Inspection Service, Department of Agriculture (9 CFR part 91), to the Customs officer in charge at the time of departure of any aircraft carrying horses, mules, asses, cattle, sheep, swine, or goats.

12. Section 122.79 is amended by revising paragraph (b) and removing the undesignated paragraph following (b)(2) to read as follows:

§ 122.79 Shipments to U.S. possessions.

* * * * *

(b) *Puerto Rico.* When an aircraft carries merchandise on a direct flight from the U.S. to Puerto Rico, any required air cargo manifest or Shipper's Export Declarations shall be filed with the district director at Puerto Rico.

Harry A. Scarr,

Acting Director, Bureau of the Census.

Michael H. Lane,

Acting Commissioner, U.S. Customs Service.

Approved and concurred:

Ronald K. Noble,

Assistant Secretary for Enforcement, Department of the Treasury.

[FR Doc. 93–18502 Filed 8–3–93; 8:45 am]

BILLING CODE 3610-07-P

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

Office of the Secretary

24 CFR Part 791

[Docket No. R–93–1637; FR–3446–01]

RIN 2501–AB62

Allocation of Budget Authority for Housing Assistance

AGENCY: Office of the Secretary, HUD.

ACTION: Interim rule.

SUMMARY: This interim rule amends the regulations governing allocation of budget authority for housing assistance by adding two subcategories of budget authority for uses that the Secretary determines are incapable of geographic allocation by formula. This change is necessary because some housing assistance is incapable of geographic allocation by formula, but does not fall within the current regulatory exceptions.

DATES: *Effective Date:* This interim rule is effective on September 3, 1993, and expires on February 1, 1995 if there are no set asides in the operating plan submitted to Congress in January 1995. *Comment Due Date:* October 4, 1993.

FOR FURTHER INFORMATION CONTACT: For the Public and Indian Housing program, and section 8 voucher, certificate, and moderate rehabilitation programs, William R. Minning, Director, Policy Division, room 4234, Department of Housing and Urban Development, 451 Seventh Street SW., Washington, DC 20410–0500, telephone (202) 708–0713. Hearing- or speech-impaired individuals may call HUD's TDD number (202) 708–0850. For other assisted housing programs, Joel Balsham, Program Advisor, Office of the Deputy Assistant Secretary for Multifamily Housing, room 6124, Department of Housing and Urban Development, 451 Seventh Street SW., Washington, DC 20410–8000, telephone (202) 708–4135. Hearing- or speech-impaired individuals may call HUD's TDD number (202) 755–4594. (These are not toll-free numbers.)

SUPPLEMENTARY INFORMATION:

I. Background

This interim rule further implements section 213(d) of the Housing and Community Development Act of 1974, as most recently amended by the Department of Housing and Urban Development Reform Act of 1989, which was incorporated into 24 CFR part 791, subpart D, on March 7, 1991 (56 FR 9822). Under § 791.403, the Department "fair shares" by formula housing assistance described in section 213 of the legislation, except for budget authority which the Secretary determines is for uses incapable of geographic allocation by formula.

The current regulation identifies four such categories of uses incapable of geographic allocation by formula. Three of these categories are program-specific; the fourth consists of "assistance which is the subject of a line item identification in the HUD appropriations law, or in the table customarily included in the Conference Report on the appropriation for the Fiscal Year in which the funds are to be allocated." The purpose of the quoted provision is to enable the Department to allocate assistance expressly identified by the Congress in a particular year for specific purposes where it may not be feasible to allocate that assistance geographically by formula. Such assistance frequently is enacted as a line item in the appropriations statutory text or is identified in the Conference Report on a given appropriation, as a specific set-aside under a program.

The Department can sometimes experience difficulty in meeting Congressional intent where such intent is not reflected in either the enacted statute or the Conference Report table. For example, in its reporting out of the appropriations bill for FY 1993, the House Committee on Appropriations stated that "within the 1993 voucher funds, the Department is directed to make available a sufficient amount for 750 units to continue the joint VA-HUD project to provide housing and treatment services to homeless, mentally ill veterans." H.R. Rep. 102–710 (July 23, 1992), at 25.

The current regulation provides some tolerance for shifting allocation levels by providing at § 791.403(b)(2) that "if the budget authority for a particular program is insufficient to fund feasible projects, or to promote meaningful competition, at the Field Office level, authority may be allocated to the Regional Office with no requirement for suballocation." However, HUD's flexibility under this provision is limited. In this case the "particular program" is the section 8 voucher program and it cannot be said that the budget authority for this particular program is insufficient to fund feasible projects, or to promote meaningful competition, at the Field Office level. Moreover, the regulation implements a statutory requirement enacted in the Reform Act which amended section 213(d)(1)(C) to require that allocations of assistance "be made to the smallest practicable area, consistent with the

delivery of assistance through a meaningful competitive process designed to serve areas with greater needs." The problem with the example described above is that the assistance for homeless, mentally ill veterans is not a "particular program" or a "program of housing assistance" (the term used in section 213(d))—it is a small set-aside under that "particular" section 8 voucher program.

The Department intends to address this problem by adding a further refinement to the listing of uses of budget authority which the Secretary determines not to be geographically allocable by formula. Specifically, the rule is amended to include along with the appropriations statute and the Appropriations Conference Report table, such uses of budget authority as are identified in the Operating Plan submitted to the Appropriations Committees.

The "Operating Plan" is presented annually to these Committees to reflect changes from the budget originally submitted to the Congress by the Administration. Its history dates back to 1987 when the Conference Report accompanying H.J. Res. 395, "Making Further Continuing Appropriations for the Fiscal Year Ending September 30, 1988," stated that "because of the substantial changes in many accounts from the budget estimates (including a number of general reductions), the conferees direct that [HUD and the Independent Agencies covered in the same appropriation] submit a fiscal year 1988 operating plan by February 1, 1988." H.R. Rep. 100–498 (Dec. 22, 1987), at 837. The statement added that "the conferees expect such operating plans to include recommended changes from the budget estimates except that no reductions may be proposed in programs, projects, or activities for which funding has been added by the Congress." Even since that time, the Department has furnished the Committees an Operating Plan annually which identifies changes from published estimates, including reprogramming within amounts set out in the Conference Report table. This year the Department intends to identify in the Operating Plan, for example, the 750 voucher units for homeless, mentally ill veterans.

Tying flexibility in the allocation of budget authority to matters identified in the Operating Plan preserves the mutual comity between Executive and Legislative Branches that has characterized the allocation process. Furthermore, the Department notes that although a set-aside identified in the Operating Plan is to be treated as described in the interim rule, the objectives of fairness in allocation and competition in distribution of assistance will not be ignored. Where feasible, the Department intends to fair share section 8 certificate and voucher set-asides down to the Regional Office level and to provide for subsequent distribution by competition.

A second change in the regulation regarding assistance incapable of geographic allocation by formula involves recently enacted legislation which prescribes that a portion of program assistance be set aside or otherwise mandated for other than general use. Recent HUD authorization statutory amendments contain provisions which have the effect of specifically targeting appropriated funds. For example, section 101(b) of the Housing and Community Development Act of 1992, Pub. L. 102–550 (Oct. 28, 1992), amended the United States Housing Act of 1937 to require funding of $20 million in both FY 1993 and FY 1994 for section 8 15 year contracts for project-based assistance to be used for a multicultural tenant empowerment and homeownership project located in the District of Columbia. This assistance obviously is incapable of geographic allocation by formula because it is expressly authorized for one city only.

In the first year following enactment of set-asides like the one described immediately above, the Operating Plan could be expected to address these newly established purposes. In subsequent years, however, they would have been incorporated in the Department's budget. For that reason, this interim rule also adds to § 791.403(b)(ii) the subcategory of assistance included in an authorization statute, such as set-asides, where the Secretary determines that such assistance is incapable of geographic allocation by formula.

II. Other Matters

A. Regulatory Impact—Executive Order 12291

This rule does not constitute a "major rule" as that term is defined in section 1(b) of the Executive Order on Federal Regulations issued by the President on February 17, 1981. An analysis of the rule indicates that it does not (1) have an annual effect on the economy of $100 million or more; (2) cause a major increase in costs or prices for consumers, individual industries, federal, state, or local government agencies, or geographic regions; or (3) have a significant adverse effect on competition, employment, investment, productivity, innovation, or on the ability of United States-based enterprises to compete with foreign-based enterprises in domestic or export markets.

B. Regulatory Flexibility Act

The Secretary in accordance with the Regulatory Flexibility Act (5 U.S.C. 605(b)), has reviewed and approved this rule, and in so doing certifies that this rule does not have a significant economic impact on a substantial number of small entities. The rule revises existing procedures for the allocation of housing assistance funds and for local government and HUD review of applications for housing assistance, but will make no change in the economic impact of these procedures on small entities.

C. Environmental Impact

A Finding of No Significant Impact with respect to the environment has been made in accordance with HUD regulations at 24 CFR part 50, which implement section 102(2)(C) of the National Environmental Policy Act of 1969. The finding is available for public inspection during regular business hours in the Office of General Counsel, the Rules Docket Clerk, room 10276, 451 Seventh Street SW., Washington, DC 20410.

D. Executive Order 12612, Federalism

The General Counsel, as the Designated Official under section 6(a) of Executive order 12612, Federalism, has determined that the policies contained in this rule will not have substantial direct effects on states or their political subdivisions, or the relationship between the Federal government and the states, or on the distribution of power and responsibilities among the various levels of government. Specifically, this rule will not substantially alter the established roles of HUD and the States and local governments, including PHAs, in administering the affected programs. As a result, the rule is not subject to review under the order.

E. Executive Order 12606, The Family

The General Counsel, as the Designated Official under Executive Order 12606, The Family, has determined that this rule does not have potential for significant impact on family formation, maintenance, and general well-being and, thus, is not subject to review under Order. No significant change in existing HUD policies or programs will result from promulgation of this rule, as those

policies and programs relate to family concerns.

F. Regulatory Agenda

This rule was listed as item number 1401 in the Department's Semiannual Agenda of Regulations published on April 26, 1993 (58 FR 24382, 24401) in accordance with Executive Order 12291 and the Regulatory Flexibility Act.

G. The Catalog of Federal Domestic Assistance program numbers are as follows:

14.103 Interest Reduction Payments—Rental and Cooperative Housing for Lower Income Families
14.149 Rent Supplements—Rental Housing for Lower Income Families
14.156 Lower Income Housing Assistance Program (Section 8)
14.157 Housing for the Elderly or Handicapped
14.177 Housing Voucher Program
14.850 Public and Indian Housing
14.851 Low Income Housing—Homeownership Opportunities for Low Income Families

H. Justification for Interim Rulemaking

In general, the Department publishes a rule for public comment before issuing a rule for effect, in accordance with its own regulations on rulemaking, 24 CFR part 10. However, part 10 does provide for exceptions from that general rule where the agency finds good cause to omit advance notice and public participation. The good cause requirement is satisfied when prior public procedure is "impracticable, unnecessary, or contrary to the public interest." (24 CFR 10.1)

The Department finds that good cause exists to publish this rule for effect without first soliciting public comment, in that prior public comment is contrary to public interest because immediate effectiveness of this rule will permit the Department to assign the great bulk of section 8 voucher and certificate budget authority under the fair share formula to Field Office jurisdictions now for timely competition among Public Housing authorities. At the same time, HUD will not have to run the risk of a specific set-aside, such as the FY 1993 voucher set-aside for homeless, mentally ill veterans, or the section 8 set-asides a multicultural tenant empowerment and homeownership project, being hamstrung by a requirement to allocate below the Regional Office level in an inefficient, infeasible manner.

Moreover, this rule does not involve major changes in the allocation scheme under part 791. Rather, it makes two minor but necessary modifications to facilitate recognition of Congressional intent and agreement on the allocation of housing assistance.

List of Subjects in 24 CFR Part 791

Grant programs—housing and community development, Intergovernmental relations, Public housing, Rent subsidies.

Accordingly, 24 CFR part 791 is amended as follows:

PART 791—REVIEW OF APPLICATIONS FOR HOUSING ASSISTANCE AND ALLOCATION OF HOUSING ASSISTANCE FUNDS

1. The authority citation for 24 CFR part 791 is revised to read as follows:

Authority: 42 U.S.C. 1439; 42 U.S.C. 3535(d).

2. Section 791.403 is amended by revising paragraph (b)(1)(ii) to read as follows:

§ 791.403 Allocation of housing assistance.

* * * * *

(b) * * *

(1) * * *

(ii) Assistance which is—

(A) The subject of a line item identification in the HUD appropriations law, or in the table customarily included in the Conference Report on the appropriation for the Fiscal Year in which the funds are to be allocated;

(B) Reported in the Operating Plan submitted by HUD to the Committees on Appropriations; or

(C) Included in an authorization statute where the nature of the assistance, such as a prescribed set-aside, is, in the determination of the Secretary, incapable of geographic allocation by formula,

* * * * *

Dated: July 30, 1993.

Henry G. Cisneros,

Secretary.

[FR Doc. 93–18597 Filed 8–3–93; 8:45 am]

BILLING CODE 4210-33-M

DEPARTMENT OF TRANSPORTATION

Coast Guard

33 CFR Part 100

[CGD 05–93–058]

Special Local Regulations for Marine Events; Virginia Beach Offshore Grand Prix, VA

AGENCY: Coast Guard, DOT.

ACTION: Temporary final rule.

SUMMARY: Special Local Regulations are being adopted for the Virginia Beach Offshore Grand Prix to be held in the Atlantic Ocean off Virginia Beach on September 5, 1993. These special local regulations are necessary to control vessel traffic in the immediate vicinity of this event. The effect will be to restrict general navigation in the regulated area for the safety of spectators and participants.

EFFECTIVE DATES: The regulations are effective from 7 a.m. to 7 p.m., September 5, 1993. If inclement weather is forecast for September 5, the regulations will then be in effect from 7 a.m. to 7 p.m., on September 4, 1993. If inclement weather causes the postponement of the event, the regulations are effective from 7 a.m. to 7 p.m., September 6, 1993.

FOR FURTHER INFORMATION CONTACT: Stephen L. Phillips, Chief, Boating Affairs Branch, Fifth Coast Guard District, 431 Crawford Street, Portsmouth, Virginia 23704–5004, (804) 398–6204, or Commander, Coast Guard Group Hampton Roads (Operations) (804) 483–8559.

SUPPLEMENTARY INFORMATION: In accordance with 5 U.S.C. 553, a notice of proposed rulemaking has not been published for these regulations and good cause exists for making them effective in less than 30 days from the date of publication. Adherence to normal rulemaking procedures would not have been possible. Specifically, the sponsor's application to hold the event was not received until July 2, 1993, leaving insufficient time to publish a notice of proposed rulemaking in advance of the event.

Drafting Information

The drafters of this notice are QM2 Gregory C. Garrison, project officer, Boating Affairs Branch, Fifth Coast Guard District, and LT Monica L. Lombardi, project attorney, Fifth Coast Guard District Legal Staff.

Background and Purpose

The race will consist of approximately 100 powerboats, from 22 to 50 feet in length, racing over a closed course off the beachfront at Virginia Beach, Virginia. As part of the application, it was requested that the Coast Guard provide control of spectator and commercial traffic along the beachfront and Rudee Inlet areas during portions of the race.

Discussion of Regulations

These regulations will regulate the area surrounding the Virginia Beach Offshore Grand Prix. The race course is generally oval shaped, running parallel to the shoreline. The Rudee Inlet/Lake Rudee area will include the wet pits and

dockage for patrol boats at the Riverhouse boat docks, and the Owl Creek boat ramp will serve as the put in area for the race participants.

The Cape Henry Precautionary Area and the Dam Neck Danger Area are located to the north and south of the race course, respectively. While the race course does not encroach on either of these areas, the regulated area includes the southwest corner of the Cape Henry Precautionary Area and the northeast corner of the Dam Neck Danger Area. To provide for the safety of participants, spectators, and vessels transiting the area, the Coast Guard will restrict vessel movement in the regulated area and has established a temporary spectator anchorage for what is expected to be a large spectator fleet, Coast Guard patrol vessels will be positioned at Rudee Inlet to direct vessels to the temporary spectator anchorage. The sponsor will provide approximately 44 vessels, including 15 medical boats with paramedics on board to assist the Coast Guard and local government agencies in patrolling this event. All vessels will display Official Regatta Patrol signs and identity numbers. Representatives of the sponsors and members of the Coast Guard will be present in the vicinity of the race site to inform vessel operators of these regulations and other applicable laws.

Regulatory Evaluation

This final rule is considered non-major under Executive Order 12291 and not significant under Department of Transportation regulatory policies and procedures (44 FR 11034; February 26, 1979). The economic impact of this regulation is actually expected to be beneficial to the local business community on a small scale, therefore, a full regulatory evaluation is unnecessary. This regulation will only be in effect for twelve hours, and the impacts on routine navigation are expected to be minimal as Rudee Inlet will only close for short periods of time as the racers transit to and from the actual race areas.

Small Entities

Under the Regulatory Flexibility Act (5 U.S.C. 601 et seq.), the Coast Guard must consider whether this regulation will have a significant economic impact on a substantial number of small entities. "Small Entities" include independently owned and operated small businesses that are not dominant in their field and that otherwise qualify as "small business concerns" under section 3 of the Small Business Act (15 U.S.C. 632). Most small entities located in the regulated area will be involved with providing services to the sponsor, the race participants, and race spectators. This should have a favorable impact, and only a few small businesses will not be involved. Since the impact of this rule on non-participating small entities will be minimal, the Coast Guard certifies under 5 U.S.C. 605(b), that this rule will not have a significant economic impact on a substantial number of small entities.

Federalism Assessment

This action has been analyzed in accordance with the principles and criteria contained in Executive Order 12612, and it has been determined that the final rule does not raise sufficient federalism implications to warrant the preparation of a Federalism Assessment.

Environmental Assessment

This final rule has been thoroughly reviewed by the Coast Guard and determined to be categorically excluded from further environmental documentation in accordance with section 2.B.2.c of Commandant Instruction M16475.1B. A Categorical Exclusion Determination statement has been prepared and been placed in the rulemaking docket

List of Subjects in 33 CFR Part 100

Marine safety, Navigation (water).

Proposed Regulations

In consideration of the foregoing, part 100 of title 33, Code of Federal Regulations is amended as follows:

PART 100—[AMENDED]

1. The authority citation for part 100 continues to read as follows:

Authority: 33 U.S.C. 1233; 49 CFR 1.46 and 33 CFR 100.35.

2. A temporary § 100.35–T0558 is added to read as follows:

§ 100.35–T0558 Rudee Inlet, Lake Rudee, Atlantic Ocean, Virginia Beach, Virginia.

(a) Definitions: (1) Regulated area. The waters of the Atlantic Ocean commencing at a point on the shoreline at latitude 36°54′23.0″ North, longitude 75°59′26.0″ West; thence east northeast to latitude 36°54′38″ North, longitude 75°56′55″ West; thence south southeast parallel to the Virginia Beach shoreline to latitude 36°49′06″ North, longitude 75°55′58″ West; thence west southwest to the shoreline at latitude 36°48′53″ North, longitude 75°57′58″ West, and the waters of Rudee Inlet and Lake Rudee including the Owl Creek Boat Ramp.

(2) Coast Guard Patrol Commander. The Coast Guard Patrol Commander is a commissioned, warrant, or petty officer of the Coast Guard who has been designated by the Commander, Coast Guard Group Hampton Roads.

(3) Spectator Anchorage Area. The waters of the Virginia seacoast bounded by a line connecting the following points:

Latitude	*Longitude*
36°51′23.0″ N	75°56′47.0″ W.
36°51′27.0″ N	75°56′23.0″ W.
36°50′26.0″ N	75°56′13.0″ W.
36°50′23.0″ N	75°56′36.0″ W.

(b) Special Local Regulations. (1) Except for participants in the Virginia Beach Offshore Grand Prix and vessels authorized by the Coast Guard Patrol Commander, no person or vessel may enter or remain in the regulated area without the permission of the Patrol Commander.

(2) The operator of any vessel in the immediate vicinity of this area shall:

(i) Stop the vessel immediately when directed to do so by any commissioned, warrant, or petty officer on board a vessel displaying a Coast Guard ensign.

(ii) Proceed as directed by any commissioned, warrant or petty officer on board a vessel displaying a Coast Guard ensign.

(3) Spectator vessels may anchor in the spectator anchorage area specified in paragraph (a)(3) of these regulations.

(4) The Coast Guard Patrol Commander may allow vessels to transit the regulated area whenever a race heat is not being run.

(5) Vessel operators are advised to remain clear of the advisory area during the effective periods of this regulation.

(c) Effective periods: The regulations are effective from 7 a.m. to 7 p.m., September 5, 1993. If inclement weather is forecast for September 5, the regulations will then be in effect from 7 a.m. to 7 p.m., on September 4, 1993. If inclement weather causes the postponement of the event, the regulations are effective from 7 a.m. to 7 p.m., September 6, 1993.

Dated: July 23, 1993.

W.T. Leland,

Rear Admiral, U.S. Coast Guard, Commander, Fifth Coast Guard District.

[FR Doc. 93–18550 Filed 8–3–93; 8:45 am]

BILLING CODE 4910-14-M

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 52

[AD–FRL–4687–1]

Approval and Promulgation of State Implementation Plans; Call for Sulfur Dioxide SIP Revisions for Billings/Laurel, MT

AGENCY: Environmental Protection Agency (EPA).

ACTION: Information notice.

SUMMARY: EPA hereby gives notice that it notified the Governor of Montana on March 4, 1993, that the Montana State Implementation Plan (SIP) for the Billings-Laurel area is substantially inadequate to attain and maintain the sulfur dioxide (SO_2) National Ambient Air Quality Standards (NAAQS) and must be revised.

DATES: A SIP revision for the Billings-Laurel area is due September 4, 1994.

FOR FURTHER INFORMATION CONTACT: Laurie Ostrand, Air Programs Branch, 999 18th Street, suite 500, Denver, Colorado 80202–2466, (303) 293–1757

SUPPLEMENTARY INFORMATION:

I. Background

On April 30, 1971, EPA promulgated primary and secondary NAAQS for SO_2 under section 109 of the Act (36 FR 8186). The existing primary standards for sulfur oxides, measured as SO_2, are 0.14 ppm (365 μg/m³), averaged over a period of 24 hours and not to be exceeded more than once per year, and 0.03 ppm (80 μg/m³) annual arithmetic mean. The current secondary standard is 0.5 ppm (1300 μg/m³), averaged over a period of 3 hours and not to be exceeded more than once per year.

II. Finding of Inadequacy

On September 6, 1979 (44 FR 51977), EPA approved revisions to the Montana SIP which were submitted to meet part of the part D nonattainment area requirements. These revisions included a stipulation between the Montana Department of Health and Environmental Sciences and several sources in the Billings-Laurel area. The remaining nonattainment area requirements were approved by EPA on January 10, 1980 (45 FR 2034).

EPA now finds[1] the SIP inadequate based on predicted violations of the SO_2 NAAQS that have been modeled in the Billings-Laurel area. These predicted violations were shown in modeling used by Billings Generation Inc. (BGI) to obtain a permit to construct, in a GeoResearch, Inc. (GRI) modeling study commissioned by the Billings City Council, and in the State's refined analysis of the GRI modeling. The results of the GRI study and the State's further analysis indicate that there are violations of the SO_2 NAAQS outside the current nonattainment area of Laurel, in the Billings area, and at sites not represented by the existing SO_2 monitoring network.

[1] The finding is made pursuant to sections 110(a)(2)(H) and 110(k)(5) of the Clean Air Act, 42 U.S.C. 7410(a)(2)(H) and 7410(k)(5).

III. Call for SIP Revision

This finding of SIP inadequacy requires Montana to submit a SIP revision no later than 18 months from the date of EPA's letter to the Governor. To ensure that the SIP deadline is met, EPA requested the State to submit an action plan for the development of the SIP revision within 60 days from receipt of EPA's letter to the Governor. Any control strategies adopted and implemented as part of this SIP revision must provide for attainment and maintenance of the SO_2 NAAQS within 5 years from from the date of EPA's letter to the Governor. (See, e.g., section 110(n)(2) of the Act.)

IV. Final Action

This finding of inadequacy does not constitute a final agency action that is ripe for judicial review. EPA's action is a first step in an administrative process that will not be sufficiently concrete for judicial resolution until additional action is taken by EPA on a plan submittal by the State of Montana.

The 60-day time period for filing a petition for review under section 307(b) of the CAA is tolled until EPA makes the finding ripe by taking additional action in reliance on it, such as imposing sanctions on the State of Montana for failure to submit a SIP revision or promulgating approval of a SIP revision. A time limitation on petitions for judicial review can only run against challenges ripe for review.

A technical support document (TSD) is available from the contact person listed above. The TSD discusses in more detail the ambient standard and its health effects, the SIP call and legal authority, modeling studies, and the SIP revision schedule.

List of Subjects in 40 CFR Part 52

Air pollution control, Sulfur dioxide.

Authority: Sections 101, 107, 110, 116 and 301(a) of the Clean Air Act, as amended (42 U.S.C. 7401, 7407, 7410, 7416 and 7610(a)).

Dated: July 13, 1993.

Jack W. McGraw,

Acting Regional Administrator.

[FR Doc. 93–18496 Filed 8–3–93; 8:45 am]

BILLING CODE: 6560–50–P

40 CFR Part 186

[OPP–300199A; FRL–4073–3]

RIN 2070–AB78

Captan; Revocation of Feed Additive Regulation

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: This document revokes the feed additive tolerance listed in 40 CFR 186.500 for residues of the fungicide captan (*N*-trichloromethylthio-4-cyclohexene-1,2-dicarboximide) in or on corn seed at 100 parts per million (ppm), remaining after detreatment to reduce captan residues resulting from the intended use of captan as a seed protectant. This action is being taken by EPA because data required and requested by EPA to support the continuation of the feed additive regulation have not been submitted.

EFFECTIVE DATE: Effective on August 4, 1993.

ADDRESSES: Written objections and/or requests for a hearing, identified by the document control number, [OPP-300199A], may be submitted to: Hearing Clerk (A-110), Environmental Protection Agency, Rm. 3708, 401 M St., SW., Washington, DC 20460.

FOR FURTHER INFORMATION CONTACT: By mail: Patricia Critchlow, Registration Division (H7505W), Environmental Protection Agency, 401 M St., SW., Washington, DC 20460. Office location and telephone number: 6th Floor, Crystal Station #1, North Tower, 2800 Crystal Drive, Arlington, VA 22202, (703)-308-7066.

SUPPLEMENTARY INFORMATION: This document announces the revocation of the feed additive regulation established under section 409 of the Federal Food, Drug, and Cosmetic Act (FFDCA), 21 U.S.C. 348, permitting residues of the fungicide captan at 100 ppm remaining in or on corn seed from its intended use as a seed protectant, after detreatment. This feed additive tolerance is listed in 40 CFR 186.500.

In the **Federal Register** of August 30, 1989 (54 FR 35897), EPA issued a proposed rule to revoke the feed additive regulation in 40 CFR 186.500 for residues of the fungicide captan in or on corn seed remaining after

detreatment to reduce captan residues resulting from the intended use of captan as a seed protectant. The basis for revoking the feed additive regulation was that certain information required by the March 1986 Captan Registration Standard to support the regulation had not been submitted.

In March 1986, EPA issued a Registration Standard which stated, among other things, that the Agency had reevaluated the use of treated seed corn for feed use for cattle and hogs and expected to take action, in approximately a year, to revoke the feed additive regulation that permits the feed use of detreated captan-treated seed corn, unless certain concerns were resolved, as follows:

1. Residue chemistry data were needed for detreated captan-treated corn seed which had been treated at maximum label dosage and held in storage for various time periods ranging from 3 to 18 months.

2. An acceptable method for informing corn seed treaters and corn seed distributors of acceptable methods for detreating captan-treated corn seed must be proposed.

3. An acceptable handling procedure for captan-treated seed corn (to be detreated) to assure that there are no other pesticides on the seed must be proposed.

The captan feed additive regulation does not identify permitted methods for detreating the captan-treated corn seed although the **Federal Register** notice which established this regulation mentioned washing and roasting, thereby implying that these were acceptable methods. However, the Agency has inadequate data to support either washing or roasting when the maximum registered dosage of captan has been applied, and has no acceptable residue data to support the roasting detreatment method at any dosage or period of storage.

Three comments were received in response to the notice of proposed rulemaking to revoke the captan feed additive regulation for residues in detreated corn seed. Comments were received from the American Seed Trade Association (ASTA); Ken Hunt of Ken's Roasting Service in Arcadia, NE; and Robert York of Johnston, IA.

1. *York.* Mr. York questioned EPA's need for the residue chemistry data and other information which was requested in the March 1986 Captan Registration Standard and discussed in the August 30, 1989 proposed rule.

Mr. York argued against the request for residue data for detreated captan-treated corn seed treated at maximum label dosage and held in storage for periods ranging from 3 to 18 months. He asked whether EPA had any indication that storage of treated seed over an extended period would result in any change in the chemical composition of the treatment or, even if that did occur, whether there would be any effect on the feeding trial and resultant conclusions.

Mr. York countered EPA's request for an acceptable way to inform corn seed treaters and distributors of acceptable methods for detreating captan-treated corn seed by claiming that "vast experience in the field" with the roasting method to detreat captan-treated corn seed and then feeding such detreated corn seed to animals under the existing procedure has not resulted in illegal residues of captan in the meat from such animals. He contended that such treated seed would have been treated at least 18 months or more before the detreating and feeding date and that most seed companies treat at the maximum recommended rate; therefore, the experience referred to would have been based on such rates.

Mr. York argued against EPA's request for an acceptable procedure for handling captan-treated corn seed (to be detreated) to assure that there are no other pesticides in the seed. He said there is enough field experience with roaster operation and quality control of such operation to permit a simple writeup of the procedure for distribution to those who need it. Further, he said there is an appropriate residue analysis procedure to test the detreatment process to be sure that the established tolerance of 100 ppm is not exceeded. Mr. York argued that satisfying this EPA request would be simple, and it is not a valid reason to revoke the tolerance.

Mr. York also said all seed corn that is pesticide treated must be labeled with the pesticide that has been applied, in order to comply with Federal and State seed laws. Therefore, a simple auditing procedure for checking seed tags should immediately indicate what is on the seed and should prevent any illegal residues on the detreated seed. According to Mr. York, the current procedures permitting roasting of treated seed so long as it contains only captan and other materials at rates below existing tolerances, prior to the detreating procedure, has been working quite well and has not resulted in illegal residues of any material, provided the roaster and the feeder have abided by the law in effect at the time.

Finally, Mr. York posits that the "real" reason for this tolerance revocation is EPA concern about illegal use of treated seed. Mr. York argues that revoking the tolerance will not control illegal activity.

EPA's Response: In response to Mr. York's objections to the revocation and to EPA's several bases for the revocation action, EPA reiterates that the residue chemistry data and other information under discussion were requested in March 1986 and that interested parties were given another opportunity to submit the data in response to the August 1989 proposed rule to revoke the tolerance. However, the information has not been submitted. Undocumented "experience" and unsubstantiated conclusions cannot be accepted in lieu of scientific data from properly controlled studies.

Regarding Mr. York's question about whether EPA had an indication that storage of treated seed over an extended period would result in any change in the chemical composition of the treatment or have effect on the feeding trial, EPA points out that it is the lack of data that is the problem. EPA does not have sufficient data to characterize residues, whether or not the treated seed is stored for long periods.

EPA does not dispute that an acceptable handling procedure could be developed. Further, EPA has no objections to Mr. York's suggestion to have a procedure for auditing seed tags in order to determine what pesticides have been used for seed treatments. However, the problem remains that no one has indicated a willingness to initiate and be responsible for such a program.

EPA agrees with Mr. York that illegal use of treated seed can be a problem and that revoking the tolerance for detreated seed will not stop individuals intent on such illegal uses. EPA would simply reiterate, however, that the basis for revoking this tolerance is insufficient data and not a concern with illegal residues.

2. *American Seed Trade Association (ASTA).* ASTA pointed out that, after EPA issued a Registration Standard for captan in March 1986 requiring additional metabolite information on captan as a result of roasting, ASTA developed and submitted to EPA a protocol for a study to generate the required data. However, late in 1986, ASTA decided not to pursue the studies needed to develop the data. Although ASTA was confident that the information needed to support the tolerance could be developed, and the process of detreating was more than adequate to reduce the levels of captan below the tolerance, ASTA felt it could not be responsible for the detreating activities that were happening in many

different locations and by persons over which ASTA had no control.

ASTA is not opposed to the revocation action but has serious concerns about what can or will be done to dispose of the usual huge quantities of obsolete seed. ASTA is continuing to look for a solution to the problem for the disposal of obsolete treated corn seed and will continue to solicit EPA's assistance in the search to find such a solution.

EPA's response: EPA is also concerned about the disposal problem, but does not believe that continuing the tolerance without the required data is justified or an appropriate means to solve the disposal problem.

3. *Hunt*. Mr. Hunt is in favor of EPA continuing the feed additive tolerance or, alternatively, having EPA institute a permit system for roasting firms like his. Mr. Hunt states that he regularly has his roasted corn analyzed and it is well below tolerance levels for captan. Mr. Hunt maintains that roasting captan-treated corn seed and subsequently feeding the detreated seed to hogs and cattle is the safest way to dispose of the obsolete or excess treated corn seed.

EPA's response: The Agency understands and sympathizes with Mr. Hunt's position. However, since EPA's data requirements for this tolerance have not been met, EPA must take steps to revoke the tolerance. As noted above, anecdotal evidence is no substitute for scientifically conducted studies. Moreover, on the subject of permits, EPA would note that such a system depends on an otherwise valid and scientifically based tolerance level.

Based on the information considered by EPA and discussed in the proposal and in this document, EPA is hereby revoking the feed additive tolerance for residues of captan remaining in corn seed which has been treated with captan seed protectant and subsequently subjected to a detreatment process to remove excess residues.

Any person adversely affected by this regulation revoking the feed additive regulation in 40 CFR 186.500 for residues of captan in detreated corn seed may, within 30 days after publication of this document in the **Federal Register**, file written objections and/or a request for a hearing with the Hearing Clerk, at the address given above (40 CFR 178.20). The objections submitted must specify the provisions of the regulation deemed objectionable and the grounds for the objections (40 CFR 178.25). If a hearing is requested, the objections must include a statement of the factual issue(s) on which a hearing is requested, the requestor's contentions on each such issue, and a summary of any evidence relied upon by the requestor (40 CFR 178.27). A request for a hearing will be granted if the Administrator determines that the material submitted shows the following: There is a genuine and substantial issue of fact; there is a reasonable possibility that available evidence identified by the requestor would, if established, resolve one or more of such issues in favor of the requestor, taking into account uncontested claims or facts to the contrary; and resolution of the factual issue(s) in the manner sought by the requestor would be adequate to justify the action requested (40 CFR 178.32).

This rule has been reviewed by the Office of Management and Budget as required by Executive Order 12291.

In order to satisfy requirements for analysis as specified by Executive Order 12291 and the Regulatory Flexibility Act, the Agency has analyzed the costs and benefits of this proposal. This analysis is available for public inspection in Rm. 1128, CM #2, 1921 Jefferson Davis Highway, Arlington, VA 22202.

Executive Order 12291

As explained in the proposal published August 30, 1989, the Agency has determined, pursuant to the requirements of Executive Order 12291, that the revocation of the feed additive regulation discussed herein will not cause adverse economic impacts on significant portions of U.S. enterprises.

Regulatory Flexibility Act

This rule has been reviewed under the Regulatory Flexibility Act of 1980 (Pub. L. 96-354, 94 Stat. 1164; 5 U.S.C. 601 et seq.), and it has been determined that it will not have a significant economic impact on a substantial number of small businesses, small governments, or small organizations. The reasons for this conclusion are discussed in the August 30, 1989 proposal.

List of Subjects in 40 CFR Part 186

Animal feeds, Pesticides and pests, Reporting and recordkeeping requirements.

Dated: July 22, 1993.

Susan H. Wayland,

Acting, Assistant Administrator for Prevention, Pesticides, and Toxic Substances.

Therefore, 40 CFR part 186 is amended as follows:

1. The authority citation for part 186 continues to read as follows:

Authority: 21 U.S.C. 348.

§ 186.500 [Removed]

2. By removing § 186.500 *Captan.*

[FR Doc. 93–18555 Filed 8–3–93; 8:45 am]

BILLING CODE 6560–50–F

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Office of Child Support Enforcement

45 CFR Parts 301 and 303

RIN 0970–AA88

Safeguarding Information; Federal Income Tax Refund Offset

AGENCY: Office of Child Support Enforcement (OCSE), ACF, HHS.

ACTION: Final rule.

SUMMARY: This final rule implements sections 5011 (a) and (b) of Public Law 101–508, the Omnibus Budget Reconciliation Act of 1990 (OBRA 1990), by extending indefinitely the availability of the Federal income tax refund offset process to qualified non-AFDC IV–D cases and extending use of this process to non-AFDC IV–D cases in which support is due: (1) On behalf of certain adult disabled children with a current support order; and (2) on behalf of a parent when the parent is living with the child and spousal support and child support are included in the same support order. In addition, the final rule amends the safeguarding of information requirements to permit disclosure to the appropriate agency or official of information regarding an applicant or recipient of IV–D services that involves known or suspected instances of mental or physical injury, sexual abuse or exploitation, or negligent treatment of a child.

DATES: These regulations are effective on and after August 4, 1993.

FOR FURTHER INFORMATION CONTACT: Susuan Notar, OCSE Division of Policy and Planning, (202) 401–4606.

SUPPLEMENTARY INFORMATION:

Paperwork Reduction Act

These regulations contain no information collection requirements that are subject to OMB review under the Paperwork Reduction Act of 1980 (Pub. L. 96–511).

Statutory Authority

These regulations are published under the authority of the following provisions of the Social Security Act (the Act): (1) Section 464(a)(2)(B), as amended by section 5011(a) of Public Law 101–508, which deleted the January 1, 1991 cut-off date for use of the Federal income

tax refund offset process in non-AFDC IV–D cases; (2) section 464(c), as amended by section 5011(b) of Public Law 101–508, to permit the use of the Federal income tax refund offset process in non-AFDC cases for the collection of past-due support on behalf of adult disabled children and for the collection of certain spousal support; and (3) section 1102 which requires the Secretary to publish regulations that may be necessary for the efficient administration of the functions for which he is responsible under the Act.

Background and Description of Regulatory Provisions

1. Safeguarding of Information

In the course of performing their duties, child support practitioners may become aware that a child has been or potentially could be the victim of child abuse or neglect. Although they may feel compelled to report their suspicions, nondisclosure laws and rules such as the provisions in 45 CFR 303.21 may impose restrictions prohibiting them from doing so. Furthermore, all States have laws governing mandatory reporting of suspected child abuse or neglect. These laws define such elements as reportable conditions, persons required to report, and sanctions for failure to report. The mutual existence of Federal non-disclosure laws and Federally required State laws mandating reporting of child abuse and neglect may cause dilemmas for professionals subject to the provisions of both types of laws.

Formerly, Federal regulations at 45 CFR 303.21 limited the use or disclosure of information concerning applicants or recipients of support enforcement services to purposes directly connected with the administration of the plan or program approved under parts A, B, C, or D of title IV, or under titles II, X, XIV, XVI, XIX or XX or the supplemental security income program established under title XVI; any investigation, prosecution or criminal or civil proceeding conducted in connection with the administration of any such plan or program; and the administration of any other Federal or Federally assisted program which provides assistance, in cash or in kind, or services, directly to individuals on the basis of need. Those regulations prohibited the disclosure of any information that identified by name or address any such applicant or recipient to any committee or legislative body (Federal, State or local).

Section 5054 of Public Law 101–508 of the Omnibus Budget Reconciliation Act of 1990, amended section 402(a)(9) of the Act to allow disclosure to appropriate authorities of information on known or suspected child abuse or neglect. Section 5054 also amended section 402(a)(16) of the Act to require the disclosure to an appropriate agency or official of information on known or suspected instances of physical or mental injury, sexual abuse or exploitation, or negligent treatment or maltreatment of a child receiving AFDC. Because reporting of known or suspected child abuse or neglect is now required as part of a State's plan for administering its title IV–A program, we believe that authority exists for amending OCSE regulations at 45 CFR 303.21 to permit similar disclosure in the case of title IV–D applicants and recipients. We further believe that the amendment helps eliminate the dilemma often faced by child support practitioners in determining whether to report suspected instances of child abuse or neglect. Therefore, we have amended § 303.21 by adding a new paragraph (a)(4) which adds an additional limited exception to disclosure restrictions and allows reporting to an appropriate agency or official, information on known or suspected instances of physical or mental injury, sexual abuse or exploitation, or negligent treatment of a child who is the subject of a child support enforcement activity under circumstances which indicate that the child's health or welfare is threatened thereby.

We have also made other technical amendments to the regulation to conform with section 402(a)(9) of the Act. Section 202(b)(2)(A) of the Family Support Act of 1988 (Public Law 100–485) inserted "including activities under part F" into 402(a)(9) of the Act. Therefore, we have added this language to § 303.21(a)(1). In addition, section 202(b)(2)(B) of the FSA repealed part C of title IV of the Act. Therefore, we deleted the reference to part C from § 303.21(a)(1). Section 5055(a) of Public Law 101–508 added reference to title IV–D to 402(a)(9). To conform, we have added such a reference to § 303.21. Finally, we have corrected § 303.21(a)(1) by changing title II to title I in conformity with 402(a)(9).

2. Requests for Collection of Past-Due Support by Federal Income Tax Refund Offset

Former 45 CFR 303.72(a)(3)(i) allowed the use of the Federal income tax refund offset to collect past-due support in non-AFDC IV–D cases if the support was owed to or on behalf of a minor child. Referral for this process of spousal support and support due an individual who is no longer a minor in non-AFDC IV–D cases was prohibited For non-AFDC referrals, the State had to differentiate between spousal and child support and only submit amounts owed on behalf of a minor child as defined by State law. Furthermore, the Federal statute and regulations did not allow non-AFDC referrals on behalf of an individual who was no longer a minor on the last day of the current tax year even if the arrearage accrued while the person was a minor. Section 5011(b) of the Omnibus Budget Reconciliation Act of 1990 (Public Law 101–508), (OBRA), amended section 464(c) of the Act by: (1) Extending use of the Federal tax refund offset process to non-AFDC IV–D cases in which past-due support is due on behalf of adult disabled children for whom there is a support order in effect, and where the child, while a minor, was determined to be disabled under title II (Federal Old-Age, Survivors, and Disability Insurance Benefits program), or title XVI (Supplemental Security Income for the Aged, Blind and Disabled program) of the Act, and to non-AFDC IV–D cases in which spousal support is past due when spousal support and child support are included in the same support order and the spouse, or ex-spouse lives with the child for whom support is due; and (2) adding the term "qualified child" which means a child who is a minor, or who, while a minor, was determined to be disabled under title II or XVI of the Act, and for whom an order for support is in effect. This extension of the Federal income tax refund offset process did not extend the availability of the process to collection of arrearages in non-AFDC IV–D cases for adult non-disabled individuals even if those arrearages accrued while the person was a minor

To implement these statutory changes, we revised 45 CFR 303.72(a)(3)(i) to require States to certify cases for collection through Federal income tax refund offset including cases in which past-due support is owed in non-AFDC IV–D cases to a qualified child (or a qualified child and the parent with whom the child is living if the same support order includes support for the child and the parent). As a parallel change, we amended § 301.1 by revising the definition of "past-due support" to specify that, for purposes of Federal income tax refund offset of support due an individual who is receiving services under § 302.33, "past-due support" means support owed to or on behalf of a qualified child, or a qualified child and the parent with whom the child is living if the same support order includes support for the

child. We also added to § 301.1 the definition of "qualified child."

"Qualified child" is defined as "a child who is a minor or who, while a minor, was determined to be disabled under Title II or XVI and for whom an order for support is in effect."

In addition, section 5011(a) amended section 464(a)(2)(B) of the Act by deleting the January 1, 1991 cut-off date for use of the Federal income tax refund offset process in non-AFDC IV–D cases.

Therefore, we deleted § 303.72(k) which limited offset of Federal income tax refunds to satisfy past-due support in non-AFDC cases to refunds payable after December 31, 1985 and before January 1, 1991.

Response to Comments

In response to the Notice of Proposed Rulemaking published November 18, 1991, in the **Federal Register** (56 FR 58205) we received comments from 13 commenters, representing national organizations, Federal agencies, State and local IV–D agencies, and advocacy groups. The comments and our responses are as follows:

General Definitions—Section 301.1

1. Comment: One commenter stated that the proposed amendments to definitions at § 301.1 accurately reflect the requirements of Public Law 101–508 with regard to the Federal income tax refund offset. Another commenter proposed that a Federal statutory change be pursued and the regulations be revised to eliminate the age restriction and provide the Federal income tax refund offset process to all non-AFDC IV–D cases. The commenter opined that the language "qualified child * * * who is a minor or who, while a minor, was determined to be disabled * * *" continues the age restriction on non-AFDC cases, and may discriminate against non-disabled individuals for whom arrearages accrued while the person was a minor.

Response: Section 5011(b) of OBRA 1990 amended section 464(c) of the Act to expand the availability of the Federal income tax refund offset to non-AFDC recipients of IV–D services in several situations: (1) When past-due support is due on behalf of minor children and adult disabled children for whom a support order is in effect and who, while minor children, were determined to be disabled under title II, title IV, or title XVI of the Act, (2) cases in which spousal support is past-due when spousal support and child support are included in the same support order and the spouse, or ex-spouse lives with the child. The amendment to OBRA 1990 did not extend the process to allow collection of arrearages through the Federal income tax refund offset in non-AFDC IV–D cases in which there is not a "qualified child" even if those arrearages accrued while the person was a minor. Therefore, we may not, by regulation, exceed the statutory authority to include every non-AFDC IV–D case in which past-due support is owed with those certified for submittal to the Federal income tax refund offset process.

Collection of Past-Due Support by Federal Income Tax Refund Offset—Section 303.72

1. Comment: Most commenters supported the amendment to the Federal income tax refund offset regulation. One commenter stated that its language merely formalizes new operational requirements which were expressed in OBRA 1990 and in implementing instructions which were provided to the States in July, 1991. The commenter declared that "[t]he regulations will further the goal of improving collection of established child support obligations, and will ensure the improved effectiveness of the child support enforcement program." Another commenter concurred with the amendments to the Federal income tax refund offset process, especially where adult disabled children and certain spousal support are concerned. A third commenter favored the expansion of the tax intercept program to allow arrearages owed for disabled children to be submitted for Federal income tax refund offset, even if they are adults. Another commenter was pleased that the extension of the non-AFDC portion of the Federal tax intercept program includes spousal as well as child support. An additional commenter indicated that the amendments to the Federal income tax refund offset regulation will help to ensure that those custodial parents who are responsible for their qualified children's special needs will receive support from the obligor. Another commenter urged that the Federal income tax refund offset process be applied to non-AFDC IV–D cases indefinitely.

Response: We appreciate commenters sharing their reactions to proposed changes. OBRA 1990 extended indefinitely the availability of the Federal income tax refund offset process to qualified non-AFDC IV–D cases. We believe that the extension of the Federal income tax refund offset program will produce increased collections of past-due support due to obligees and will thus improve the effectiveness of the IV–D program as well as the lives of children. One of the most successful collection techniques in child support enforcement has been the Federal Income Tax Refund Offset program. For example, in 1991, collections obtained by the States in cases submitted to the Federal income tax refund offset process totalled over $515 million. Since its inception in 1982, over $2.7 billion has been collected through the Federal income tax refund offset program.

Limited Applicability of Amendment to AFDC Recipients

1. Comment: Several commenters expressed concern that the current amendment to the Federal income tax refund offset regulation would have limited applicability, and stated that the Federal income tax refund offset program should be extended to apply to non-AFDC IV–D cases where the child is emancipated, but arrears accumulated while the child was a minor. Two commenters contended that the change to the existing law constitutes unequal treatment of AFDC and non-AFDC recipients of IV–D services, and a violation of equal protection because referral of support due an individual who is no longer a minor in non-AFDC cases is prohibited, yet a similar case may be referred in an AFDC arrearage situation. One commenter opined that this distinction gives unequal treatment to clients according to economic status.

Response: As we stated above, OBRA 1990 did not extend the Federal income tax refund offset process to non-AFDC cases on behalf of an individual who is no longer a minor even if the arrearage accrued while the individual was a minor, with the exception of certain adult disabled children. For this reason we do not have the statutory authority to extend, by regulation, the availability of the Federal income tax refund offset process to those non-AFDC recipients whose cases do not meet the qualifying criteria or definition of "qualified child".

Automated System Program Change

1. Comment: One commenter noted that extending the Federal income tax refund offset process to adult disabled children will at a minimum require an automated system program change to identify children who become "qualified" after the effective date of the final rule. The commenter encouraged limiting applicability of the rule to such children. The commenter noted further that if the rule is to apply to children who are qualified on its effective date, income tax refund offset should only be required upon the request of the adult child or caretaker. If further initiative on the part of the IV–D agency is envisioned, the commenter proposed

that the IV–D agency notify all non-AFDC families with a child who has reached the age of majority of the potential availability of the offset process upon request to the IV–D agency. The commenter objected to imposition of any requirement to identify all qualified children absent a request by the family either with or without notice. According to the commenter, such a requirement would entail a substantial investment of scarce staff resources at a time when they are at a premium.

Response: The amendment to the Federal income tax offset regulation applies to children on whose behalf IV–D services are being provided under § 302.33 who qualify on its effective date as well as after the change has gone into effect. However, a child's caretaker or relative need not request the extension of services. The State is responsible for identifying those individuals who are eligible for the Federal income tax refund offset. A IV–D agency may send a notice to the family indicating the extension of services has gone into effect. While we are aware that the implementation of this rule may require some changes to State automated case tracking and monitoring systems, it will ultimately benefit the IV–D agencies and those needing support by enhancing States' ability to enforce more difficult cases.

Provisions of OBRA on Tax Offset Self-Executing

1. Comment: One commenter was concerned that while the amendment to the regulation would implement the changes OBRA 1990 made on the Federal income tax refund intercept program in a straightforward manner, to the extent that the law is self-executing, the provisions should already be operable. The commenter urged that OCSE makes certain that States understand and submit Federal tax intercept requests accordingly.

Response: To alert State IV–D agencies and other interested individuals of changes to the Federal tax refund offset program for non-AFDC cases as a result of enactment of OBRA 1990, OCSE issued an Action Transmittal (OCSE–91–05, July 26, 1991). This document notified child support practitioners of changes that went into effect January 1, 1991, and specified instructions for submittal of eligible cases, including those covered by OBRA 1990.

Nevertheless, changes to the existing regulations were needed to remove the inconsistencies in the former regulations such as the "sunset provision" for the Federal income tax refund offset process for past-due support owed in non-AFDC cases.

Safeguarding of Information—Section 303.21

1. Comment: Three commenters supported the revisions to the safeguarding regulation and indicated that they were grateful for the amendment. One commented that the clarification was long overdue, and was pleased that the regulation does not distinguish between AFDC and non-AFDC IV–D recipients where public disclosure is at issue. Another noted that the amendments to the safeguarding regulation would reduce dissonance in the application of public disclosure and child abuse/neglect laws.

Response: The amendment to the safeguarding regulation should help to reduce possible conflicts for IV–D practitioners between Federal nondisclosure laws and Federally-required State laws mandating reporting of child abuse and neglect. We appreciate your comments.

Statutory Authority

1. Comment: One commenter contended that the proposed revision exceeds the statutory authority to disclose found in 42 U.S.C. 602(a) (9) and (16) because it gives the IV–D agency the authority to disclose information about possible abuse, and extends this to non-AFDC families as well as AFDC applicants or recipients. Another commenter requested clarification of an apparent discrepancy between the Action Transmittal (OCSE–AT–91–11) and the background information in the **Federal Register** (56 FR 58205) and the proposed regulation itself. The commenter noted that the amendment to 45 CFR 303.21 covers all IV–D cases; it mentions "applicants or recipients of support enforcement services" and "a child who is the subject of a child support enforcement activity," while the Action Transmittal and background information in the **Federal Register** seem to limit disclosure of known or suspected abuse to only cases involving children receiving AFDC.

Response: It is longstanding OCSE policy that the safeguarding requirements of § 303.21 apply to all recipients of IV–D services, regardless of whether they receive AFDC. As used in § 303.21(a), the phrase "concerning applicants and recipients" denotes both those individuals entitled to IV–D services by virtue of receipt of AFDC, title IV–E foster care, and/or Medicaid and individuals who apply for IV–D services under § 302.33.

When final regulations implementing the Child Support Enforcement Program were published on June 26, 1975 (40 FR 27154), the State plan requirements for safeguarding information about applicants and recipients for the financial assistance and social services programs were also made applicable to title IV–D State plans. This was not a statutory requirement. The intent was to extend the same protection afforded information obtained under the title IV–A program to information obtained under the title IV–D program. The Secretary's decision to extend the safeguards to the IV–D program was based on three factors: The fact that the two programs serve essentially the same applicants and recipients, the fact that statutory provisions require continuous exchange of information between the two programs, and the desire to fully comply with the spirit as well as the letter of the Privacy Act of 1974.

Section 451 of the Act mandates that child support services (e.g., locating absent parents, establishing paternity, obtaining child and spousal support, and enforcing child and spousal support orders) are available to all children, regardless of whether they are eligible for assistance under title IV–A of the Act. It would clearly be incongruous for a IV–D worker who suspects or knows that a child is being abused, to have to first determine whether such child was receiving AFDC before reporting the suspected abuse to the proper State authorities.

While we included a reference to children receiving AFDC in OCSE–AT–91–11, and in the **Federal Register** in the notice of proposed rulemaking (56 FR 58205), we did not intend to limit the scope of the safeguarding regulation to only child(ren) receiving AFDC. The language of the amendment to the safeguarding regulation, "a child who is the subject of a child support enforcement activity", is indicative of the fact that we mean for the regulation to apply to all applicants or recipients of child support enforcement services, regardless of whether they are AFDC recipients.

Notice to Parents of Disclosure

1. Comment: One commenter urged IV–D agencies to alert custodial parents to the fact that information about abuse or neglect "will not be held confidential."

Response: States may require IV–D personnel to alert custodial parents to the fact that information about abuse or neglect will not be held confidential, and will be reported to an appropriate agency or official. However, such notification is not required under

Federal laws or regulations governing the IV–D program.

Referrals to Other Agencies/Guidelines for Identifying Abuse/Citizens Requests

1. Comment: One commenter, while generally supporting the amendment to the safeguarding regulation, questioned the possibility of sharing information with law enforcement agencies conducting criminal investigations unrelated to child abuse. The commenter recommended extending the authorization to share information with law enforcement agencies regarding *any* (their emphasis) criminal investigation, rather than limiting the authorization to reporting known or suspected child abuse and neglect.

Response: Section 402(a)(9) of the Act restricts the disclosure of information concerning AFDC applicants and recipients to purposes directly connected with (A) the administration of the State's plan approved under parts A, B, D, or E of title IV, and title I, X, XIV, XVI, XIX, or XX or the supplemental security income program established by title XVI, (B) any investigation prosecution, or civil or criminal proceeding conducted in connection with the administration of any such plan or program, (C) the administration of any other Federal or Federally assisted program which provides assistance, in cash or in kind, or services, directly to individuals on the basis of need, (D) any audit, or similar activity conducted in connection with the administration of any such plan or program by any governmental entity which is authorized by law to conduct such activity, and, (E) reporting to appropriate authorities with respect to known or suspected abuse and neglect. Because the language of the statute limits disclosure by IV–D agencies to cases involving known or suspected child abuse or neglect, it would be inappropriate for IV–D practitioners to share information with law enforcement officials that is unrelated to administration of one of the plans enumerated in, or permitted by § 303.21(a)(1)–(3).

2. Comment: One commenter requested a clarification of whether the statutory amendment would require child support enforcement agencies to report child abuse or neglect directly, and fill out the necessary reports, or if they may make referrals to other State agencies under existing State law.

Response: State law and procedures would govern whether child support enforcement agencies should report known or suspected child abuse or neglect directly, or whether they should notify other appropriate State agencies of their findings of abuse or neglect. The language of the amendment "[r]eporting to an appropriate agency or official" indicates that designation of the particular agency or official to whom reports should be made is a matter left to the determination of each individual State in accordance with State law.

3. Comment: Another commenter noted that while the amendments to the safeguarding regulation will allow child support agencies to provide important child protection services to those who need them, specific guidelines should be developed to assist child support practitioners (who may be untrained in identifying victims of child abuse) with filing appropriate child abuse reports. The commenter added that the amendment to the safeguarding regulation should be well-defined to prevent child support practitioners from becoming responsible for initiating child abuse reports at the request of concerned citizens. The commenter conjectured that, as the proposed rule is currently written, it provides no distinction between the reporting responsibilities of the child support agency and child protective services. The commenter urged that the final rule specifically state that a child support practitioner may report child abuse only as a result of actually witnessing either known or suspected child abuse. Further, the commenter suggested that the regulation also require practitioners to refer citizens who wish to report child abuse to the appropriate child protection agency. This will enable IV–D agencies to help protect children against child abuse while allowing IV–D workers to remain focused on maintaining child support cases. The commenter expressed concern that, otherwise, the potential exists for a significant amount of time to be diverted from fulfilling the mission of the IV–D program to child abuse concerns.

Response: States may develop guidelines to assist child support practitioners with filing appropriate child abuse reports. It is not the intent of the statute or this regulation that IV–D workers initiate child abuse reports at the request of concerned citizens, or serve an intake function for such reporting. In such instances, it would be appropriate for IV–D personnel to inform the concerned citizens making such reports of the appropriate State agency to contact which normally handles or investigates child abuse. Pursuant to the safeguarding regulation, IV–D workers should report physical or mental injury, sexual abuse or exploitation, or negligent treatment or maltreatment of a child who is the subject of a child support enforcement activity when the IV–D worker either knows or suspects that the above have occurred. However, the IV–D worker need not actually have witnessed such abuse, and it would be unlikely for such abuse to occur in the presence of the worker. It is therefore sufficient if such abuse, injury, or exploitation is suspected or known based on personal observation or information supplied by a parent or other caretaker.

Circumstances Indicating Threats to Child's Health or Welfare

1. Comment: While generally supporting the amendment to the safeguarding regulation, one commenter expressed his concern that the language leaves unclear the extent of mistreatment which would warrant a report of potential abuse. The commenter remarked that the phrase "under circumstances which indicate that the child's health or welfare is threatened thereby" appears to mean that a report would be made only where a child has been abused or maltreated and remains at risk of future abuse and maltreatment. The commenter proposed that the regulation authorize disclosure of information where a child support practitioner suspects that a child has been abused or maltreated without conditioning that disclosure on the potential for future abuse or maltreatment.

Response: The use of the phrase "under circumstances which indicate that the child's health or welfare is threatened thereby" of section 402(a)(16) of the Act is in no way meant to condition the disclosure on either the actual abuse of a child or some hypothetical degree of potential for future abuse or maltreatment. Rather, the focus is on whether the IV–D practitioner either suspects, or knows, of the physical, or sexual abuse, exploitation, negligent treatment or maltreatment, or mental injury of a child at the present time under circumstances which indicate that the child's health or welfare is threatened thereby. Presumably, if a child is being subjected to any of the above, it is axiomatic that the child's health or welfare is threatened; however, we do not mean to condition or restrict the IV–D practitioner's disclosure responsibilities to only the potential for future abuse.

2. Comment: Another commenter questioned whether the language "under circumstances which indicate that the child's health or welfare is threatened thereby" of section 402(a)(16) of the Act requires a judgment call on the part of the IV–D

worker which would conflict with State law requiring that suspected abuse or neglect be reported by social workers. The commenter suggested that we omit "under circumstances which indicate that the child's health or welfare is threatened thereby" so that known or suspected abuse or neglect would be reported and the determination of whether a child's health or welfare is threatened would be made by workers trained to make that determination. The commenter noted that the language of Public Law 101–508 pertains to known or suspected child abuse or neglect in AFDC cases.

Response: We have included the language "under circumstances which indicate that the child's health or welfare is threatened thereby" to be consistent with section 402(a)(16) of the Act. Further, because the amendment to § 303.21(a) requires the IV–D agency to report information to an appropriate agency or official, and because that official might be a social worker depending on State law, we do not feel that the amended regulation would require an improper judgment call on the part of IV–D workers. While it is true that some judgment call on the part of the IV–D worker is needed before a referral is made to an appropriate State agency or official, that is a necessary first step to alerting the proper authorities.

Possible Linkage of Safeguarding and Tax Offset Regulations

1. Comment: One commenter expressed concern that the amendments to the safeguarding regulation and the Federal income tax refund offset regulation are linked and might involve a requirement for disclosure of Internal Revenue Service (IRS) information protected under 26 U.S.C. 6103(1)(11).

Response: Although the amendments to the tax offset and safeguarding regulation were set forth in the same notice of proposed rulemaking, we did not intend to imply that they are related, nor that they should be interpreted together so as to alter the explicit restrictions governing disclosure of IRS information. The addition to the limited disclosure provisions of § 303.21(a) pertains to disclosure of information concerning child abuse or neglect, not safeguarded Federal tax return information.

Executive Order 12291

The Secretary has determined, in accordance with Executive Order 12291, that this rule does not constitute a "major" rule. A major rule is one that is likely to result in:

(1) An annual effect on the economy of $100 million;

(2) A major increase in costs or prices for consumers, individual industries, Federal, State, or local government agencies, or geographic regions; or

(3) Significant adverse effects on competition, employment, investment, productivity, innovation, or the ability of United States-based enterprises to compete with foreign-based enterprises in domestic or export markets.

This rule is expected to have an insignificant impact on State expenditures because the costs of implementing these changes will be minimal. We believe that increased collections will far exceed increased administrative costs.

Regulatory Flexibility Analysis

The Secretary certifies, under 5 U.S.C. 605(b), as enacted by the Regulatory Flexibility Act (Pub. L. 96–354), that this rule will not result in a significant impact on a substantial number of small entities. The primary impact is on State governments and individuals, which are not considered small entities under the Act.

List of Subjects in 45 CFR Parts 301 and 303

Child support, Grant programs—social programs.

(Catalog of Federal Domestic Assistance Program No. 93.023 Child Support Enforcement Program)

Dated: April 13, 1993.

Laurence J. Love,

Acting Assistant Secretary for Children and Families.

Dated: May 18, 1993.

Donna E. Shalala,

Secretary.

For the reasons set forth in the preamble, we amend 45 CFR chapter III as follows:

PART 301—STATE PLAN APPROVAL AND GRANT PROCEDURES

1. The authority citation for part 301 continues to read as follows:

Authority: 42 U.S.C. 651 through 658, 660, 664, 666, 667 and 1302.

2. Section 301.1 is amended by revising the last sentence in the definition of "Past-due support" and by adding a definition of "Qualified child" in alphabetical order to read as follows:

§ 301.1 General definitions.

* * * * *

Past-due support * * * For purposes of referral for Federal income tax refund offset of support due an individual who is receiving services under § 302.33 of this chapter, *past-due support* means support owed to or on behalf of a qualified child, or a qualified child and the parent with whom the child is living if the same support order includes support for the child and the parent.

* * * * *

Qualified child means a child who is a minor or who, while a minor, was determined to be disabled under title II or XVI of the Act, and for whom a support order is in effect.

* * * * *

PART 303—STANDARDS FOR PROGRAM OPERATIONS

3. The authority citation for part 303 continues to read as follows:

Authority: 42 U.S.C. 651 through 658, 660, 663, 664, 666, 667, 1302, 1396a(a)(25), 1396b(d)(2), 1396(b)(o), 1396b(p), and 1396(k).

4. Section 303.21 is amended by removing the letter "C" and the word "or", and by adding "E, or F" after "D" in paragraph (a)(1); replacing "title II" with "title I" in paragraph (a)(1); removing the word "and" after the semicolon at the end of paragraph (a)(2); adding a semicolon and the word "and" after the end of paragraph (a)(3); and adding a new paragraph (a)(4) to read as follows:

§ 303.21 Safeguarding information.

(a) * * * (1)

(4) Reporting to an appropriate agency or official, information on known or suspected instances of physical or mental injury, sexual abuse or exploitation, or negligent treatment or maltreatment of a child who is the subject of a child support enforcement activity under circumstances which indicate that the child's health or welfare is threatened thereby.

* * * *

5. Section 303.72 is amended by revising paragraph (a)(3)(i) and by removing paragraph (k) to read as follows:

§ 303.72 Requests for collection of past-due support by Federal tax refund offset.

(a) * * *

(3) * * *

(i) The support is owed to or on behalf of a qualified child, or a qualified child and the parent with whom the child is living if the same support order includes support for the child and the parent.

* * * * *

[FR Doc. 93–18497 Filed 8–3–93; 8:45 am]

BILLING CODE 4150–04–M

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 646

[Docket No. 930797–3197; I.D. 072393C]

Snapper-Grouper Fishery of the South Atlantic

AGENCY: National Marine Fisheries Service (NMFS), NOAA, Commerce.

ACTION: Final rule, technical amendment.

SUMMARY: NMFS issues this technical amendment to correct a reference in the permits and fees section of the vessel identification requirements and to make other technical changes in prohibitions. The intended effect of this rule is to correct and clarify the regulations and to conform them to current practice.

EFFECTIVE DATE: August 4, 1993.

FOR FURTHER INFORMATION CONTACT: W. Perry Allen, 813–893–3722.

SUPPLEMENTARY INFORMATION: Snapper-grouper species off the southern Atlantic states are managed under the Fishery Management Plan for the Snapper-Grouper Fishery of the South Atlantic Region, prepared by the South Atlantic Fishery Management Council, and its implementing regulations at 50 CFR part 646, under the authority of the Magnuson Fishery Conservation and Management Act.

The regulations at 50 CFR 646.4(i) contain an incorrect reference for the vessel identification requirements applicable to permitted vessels. This final rule corrects that reference.

The regulations at 50 CFR 646.7 (o), (w), (gg), and (ii) are punctuated in a manner that subjects the prohibitions in those paragraphs to interpretation as to the applicability of paragraphs referenced in the prohibitions. This final rule modifies the punctuation for clarity.

Classification

This technical amendment is issued as a final rule under 50 CFR part 646 and complies with E.O. 12291.

This rule is minor and technical and, therefore, is not a "major rule" under E.O. 12291. There is no change in the regulatory impacts that were previously reviewed and analyzed.

Because this rule (1) makes non-substantive corrections and clarifications to the regulations and (2) does not change operating practices in the snapper-grouper fishery, the Assistant Administrator for Fisheries, NOAA, under section 553 (b)(B) and (d) of the Administrative Procedure Act (5 U.S.C. 553) for good cause finds that it is unnecessary and contrary to the public interest to provide notice and public comment on this rule or to delay for 30 days its effective date.

List of Subjects in 50 CFR Part 646

Fisheries, Fishing, Reporting and recordkeeping requirements.

Dated: July 29, 1993.

Samuel W. McKeen,

Acting Assistant Administrator for Fisheries, National Marine Fisheries Service.

For the reasons set forth in the preamble, 50 CFR part 646 is amended as follows:

PART 646—SNAPPER-GROUPER FISHERY OF THE SOUTH ATLANTIC

1. The authority citation for part 646 continues to read as follows:

Authority: 16 U.S.C. 1801 et seq.

§ 646.4 [Revised]

2. In § 646.4, in paragraph (i), the reference to "§ 630.6" is revised to read "§ 646.6".

§ 646.7 [Revised]

3. In § 646.7, in paragraph (o), the comma before "as specified in § 646.10(c)(7)" is revised to a semicolon; in paragraph (w), the semicolon after "EEZ" is revised to a comma; in paragraph (gg), the semicolon after "EEZ" is revised to a comma; and in paragraph (ii), the semicolon after "longline" is revised to a comma.

[FR Doc. 93–18494 Filed 8–3–93; 8:45 am]

BILLING CODE 3510–22–M

50 CFR Part 672

[Docket No. 921107–3068; I.D. 073093A]

Groundfish of the Gulf of Alaska

AGENCY: National Marine Fisheries Service (NMFS), NOAA, Commerce.

ACTION: Closure.

SUMMARY: NMFS is closing in the directed fishery for the 'other rockfish' species group in the Central Regulatory Area of the Gulf of Alaska (GOA). This action is necessary to prevent exceeding the "other rockfish" species category total allowable catch (TAC) in this area.

EFFECTIVE DATE: 12 noon, Alaska local time (A.l.t.), July 31, 1993, through 12 midnight, A.l.t., December 31, 1993.

FOR FURTHER INFORMATION CONTACT: Andrew N. Smoker, Resource Management Specialist, Fisheries Management Division, NMFS, (907) 586–7228.

SUPPLEMENTARY INFORMATION: The groundfish fishery in the GOA exclusive economic zone is managed by the Secretary of Commerce according to the Fishery Management Plan for Groundfish of the Gulf of Alaska (FMP) prepared by the North Pacific Fishery Management Council under authority of the Magnuson Fishery Conservation and Management Act. Fishing by U.S. vessels is governed by regulations implementing the FMP at 50 CFR parts 620 and 672.

In accordance with § 672.20(c)(1)(ii)(B), the "other rockfish" species category TAC for the Central Regulatory Area was established by the final 1993 initial specifications (58 FR 1678), March 31, 1993) as 1,064 metric tons (mt).

The Director of the Alaska Region, NMFS (Regional Director), established in accordance with § 672.20(C)(2)(ii), a directed fishing allowance for the "other rockfish" species category of 964 mt, with consideration that 100 mt will be taken as incidental catch in directed fishing for other species in this area. The regional Director has determined that this directed fishing allowance has been reached. Consequently, NMFS is prohibiting directed fishing for the "other rockfish" species category in the Central Regulatory Area effective from 12 noon, A.l.t., July 31, 1993, until 12 midnight, A.l.t., December 31, 1993.

Directed fishing standards for applicable gear types may be found in the regulations at § 672.20(g).

Classification

This action is taken under 50 CFR 672.20, and is in compliance with E.O. 12291.

List of Subjects in 50 CFR Part 672

Fisheries, Reporting and recordkeeping requirements.

Authority: 16 U.S.C. 1801 *et seq.*

Dated: July 30, 1993.

David S. Crestin,

Acting Director, Office of Fisheries Conservation and Management, National Marine Fisheries Service.

[FR Doc. 93–18609 Filed 7–30–93; 3:32 pm]

BILLING CODE 3510–22–M

Proposed Rules

Federal Register
Vol. 58, No. 148
Wednesday, August 4, 1993

This section of the FEDERAL REGISTER contains notices to the public of the proposed issuance of rules and regulations. The purpose of these notices is to give interested persons an opportunity to participate in the rule making prior to the adoption of the final rules.

DEPARTMENT OF AGRICULTURE

Federal Grain Inspection Service

7 CFR Part 800

RIN 0580–AA25

Prohibition on Adding Water to Grain

AGENCY: Federal Grain Inspection Service, USDA.

ACTION: Proposed rule.

SUMMARY: The Federal Grain Inspection Service (FGIS) is proposing to revise the regulations under the United States Grain Standards Act (USGSA) to prohibit the application of water to grain. This prohibition would be applicable to all persons handling grain, not just those receiving official inspection and weighing services under the USGSA. FGIS has determined that water, which is sometimes applied as a dust suppressant, can be too easily misused to increase the weight of grain. Additionally, externally-applied water has a significant potential for degrading the quality of grain. This action would foster the marketing of grain of high quality to both domestic and foreign buyers and promote fair and honest weighing practices.

DATES: Comments must be received on or before December 2, 1993.

ADDRESSES: Written comments must be submitted to George Wollam, FGIS, USDA, room 0619 South Building, P.O. Box 96454, Washington, DC, 20090–6454; telemail users may respond to IRSTAFF/FGIS/USDA; telex users may respond to 7607351, ANS:FGIS UC; and telecopy users may respond to the automatic telecopier machine at (202) 720–4628.

All comments received will be made available for public inspection in room 0632 USDA South Building, 1400 Independence Avenue SW., Washington, DC, during regular business hours (7 CFR 1.27(b)).

FOR FURTHER INFORMATION CONTACT: George Wollam, address as above, telephone (202) 720–0292.

SUPPLEMENTARY INFORMATION:

Executive Order 12291

This proposed rule has been issued in conformance with Executive Order 12291 and Departmental Regulation 1512–1. This action has been classified as nonmajor because it does not meet the criteria for a major regulation established in the Order.

Executive Order 12778

This proposed rule has been reviewed under Executive Order 12778, Civil Justice Reform. This action is not intended to have a retroactive effect. The United States Grain Standards Act provides in section 87g that no State or subdivision may require or impose any requirements or restrictions concerning the inspection, weighing, or description of grain under the Act. Otherwise, this proposed rule will not preempt any State or local laws, regulations, or policies, unless they present an irreconcilable conflict with this rule. There are no administrative procedures which must be exhausted prior to any judicial challenge to the provisions of this rule.

Regulatory Flexibility Act Certification

David R. Galliart, Acting Administrator, FGIS, has determined that this proposed rule will not have a significant economic impact on a substantial number of small entities. Most users of the official inspection and weighing services and those persons that perform those services do not meet the requirements for small entities as defined in the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*).

Information Collection Requirements

In accordance with the Paperwork Reduction Act of 1980 (44 U.S.C. chapter 35), the information collection requirements contained in the rule to be amended have been previously approved by OMB under control number 0580–0013.

Background

In the March 4, 1987, **Federal Register** (52 FR 6493), FGIS amended the regulations under the United States Grain Standards Act (USGSA) to establish provisions for officially inspecting and weighing additive-treated grain. These provisions were established to offer the grain industry the opportunity to utilize available dust suppression technology, apply insect and fungi controls, and mark grain for identification purposes with Food and Drug Administration (FDA) approved additives.

Industry comments received during the rulemaking process supported the new provisions, but also expressed concern over the possible misuse of additives. A total of 15 comments were received. Three commenters were in favor of the then proposed regulations without any reservations. Two commenters were opposed to the proposed additive provisions, as related to dust-suppressing agents. They asserted, in part, that water may be added just to increase the weight of the grain. Additionally, three of the commenters who were in favor of the proposed provisions expressed concern about the potential for improper addition of additives for the purpose of adding weight to the grain. Applying any substance for the purpose of increasing weight is prohibited by the Food, Drug, and Cosmetic Act (see 21 U.S.C. 342(b)).

The final rule specified that if additives are applied during loading to outbound grain after sampling of weighing, or during unloading to inbound grain before sampling or weighing for the purpose of insect of fungi control, dust suppression, or identification, the inspection and/or weight certificate must show a statement that describes the type and purpose of the additive application. A statement was not required to be shown when additives are applied prior to sampling and weighing out-bound grain or after sampling and weighing inbound grain. But, all incidents or suspected incidents of unapproved additive usage or improper additive application were required to be reported to the appropriate Federal, State, or local authorities for action.

Even after establishing the labeling provisions for officially inspected and weighed additive-treated grain, FGIS continued to receive complaints about high moisture grain and improper use of additives. In 1992, several foreign and domestic grain merchants expressed concern over potential quality degradation due to water application and emphasized that alternative dust control techniques are available that are practical and effective. They also contended that the primary purpose of

applying water is to increase the weight of the grain, and, hereby, gain a market advantage. Furthermore, they expressed deep concern about possible negative market reaction by both domestic and foreign buyers; i.e., buyer confidence in U.S. grain will decline if concerns develop over potential quality degradation caused by water and "paying grain prices for water." Those who support allowing the application of water to grain contend that it is an effective method for reducing dust emissions.

In response to these concerns, FGIS recently amended sections 800.88 and 800.96 of the regulations under the USGSA to require a statement on official export inspection and weight certificates whenever water is applied to export grain at export port locations (58 FR 3211). The purpose of this action was to ensure that foreign buyers of U.S. grain are informed when additives have been applied to grain exported from export port locations. This action did not address non-export grain.

During and since development of the regulations requiring a statement on export grain certificates, numerous grain industry groups, including exporters, importers, millers, processors, and producers, have voiced their growing concern about the effect that the application of water has upon all U.S. grain, whether or not such grain is exported from the U.S. or even offered for official inspection and weighing services. They have stated—and available information confirms—that applying water to grain poses a risk to grain quality and can provide a strong incentive to improperly increase weight.

FGIS believes that the practice of adding water to grain indiscriminately may be occurring and that this practice not only adds weight but creates favorable conditions for microbial-contamination of grain. Section 13(e)(1) of the USGGA (7 U.S.C. 87b) authorizes the Administrator of FGIS to prohibit the contamination of sound and pure grain as a result of the introduction of nongrain substances. Even though kernels of grain contain moisture, externally-applied water is a "nongrain substance." Therefore, FGIS proposes to prohibit the application of water to grain. This prohibition would apply to all persons handling grain—not just those receiving official services under the USGSA.

FGIS recognizes, however, that the amount of moisture in grain may increase due to natural environmental reasons during handling and storage. FGIS also realizes that water must be applied to grain during certain end-use processes. The proposed action does not restrict either naturally-occurring moisture changes or the addition of water during milling, malting, or similar processing operations.

Although studies including research initiated by the National Grain and Feed Association which was conducted by the Department (see for example, Lai, F.S., Martin, C.R., and Miller, B.S., 1982, "Examining the Use of Additives to Control Grain Dust" and "Control of Grain Dust with a Water Spray") and industry experience indicates that applying water to grain can suppress dust, there are alternative dust control methods available and in use throughout the industry. Alternative methods such as pneumatic dust collection systems do not represent the same potential degradation of grain quality, and do not provide an equivalent incentive to increase weight.

Most elevators, including those that currently use water, already have pneumatic dust collection systems installed. Furthermore, many elevators that use water also have oil-based dust suppression systems in place that are more effective than water. These systems use either USP white mineral oil or food grade vegetable oil (e.g., soybean oil). Research has shown that water applied at a level of 0.3 percent to corn reduced the dust concentration by at least 80 percent on the gallery floor. At the same location, soybean oil or mineral oil applied at a level of 0.05 percent reduced dust by more than 90 percent.

Thus, even though water is more economical than mineral or vegetable oil (mineral oil costs over $2 a gallon), far less oil is needed to control the same amount of dust. More importantly, oil is adsorbed (adheres) on grain, thereby providing long-term dust suppression. Water, on the other hand, is either absorbed (soaked-in) into grain or evaporates, and therefore, must be repeatedly applied. Consequently, FGIS believes that prohibiting water as a dust control method would neither increase the risk of elevator dust explosions nor have a significant economic impact on elevators that currently use water.

Proponents for applying water to grain suggest that the problem is merely the lack of enforcement of current FDA restrictions on applying any substance for the purpose of increasing weight. They have recommended that a licensing/permit program be established to allow firms to continue to use water, with certain restrictions. FGIS has considered this recommendation, as well as several other alternatives (e.g., require water weight to be deducted from grain weight, limit the rate of water application, and restrict water applications to certain locations/conditions) and determined that any program for controlling or restricting water usage would be very difficult and expensive to administer. Testing and approving water application systems/equipment, controlling grain elevator inventories, monitoring the amount of water applied and the location of application, and prosecuting suspected violators would require a significant staff commitment and, even then, would be ineffective in preventing all abuses. Also, establishing any program that sanctions the use of water may create a perception of abuse that jeopardizes the reputation of all U.S. grain and undermines the grain industry's commitment to ensuring quality through good handling and storage practices.

FGIS believes that banning the use of water reflects current market needs and would have a positive economic impact on the U.S. grain industry. Furthermore, most of those that are currently applying water to grain are not small entities as defined in the Regulatory Flexibility Act (5 U.S.C. 601 et seq.). Therefore, this proposed action should have little or no impact on small businesses.

Comment, including data and views on this analysis and suggestions regarding any less burdensome or more efficient alternative that would accomplish the purposes described in this proposal, are solicited from interested parties.

Proposed Action

FGIS proposes to revise:

1. Section 800.61(b) to prohibit the addition of water to grain.

2. Section 800.61(d)(4) to exclude water as a dust suppressant.

3. Section 800.88(d) to eliminate the provision for adding water to export grain.

4. Section 800.96(c)(2) to eliminate the provision for adding water to export grain.

List of Subjects in 7 CFR Part 800

Administrative practice and procedure, Grain, Export.

For reasons set out in the preamble, 7 CFR part 800 is proposed to be amended as follows:

PART 800—GENERAL REGULATIONS

1. The authority citation for part 800 continues to read as follows:

Authority: Pub. L. 94–582, 90 Stat. 2867, as amended, (7 U.S.C. 71 *et seq.*).

2. Section 800.61 is amended to add a new paragraph (b)(3) to read as follows:

§ 800.61 Prohibited grain handling practices.

* * * * *

(b) * * *

(3) Add water to grain for purposes other than milling, malting, or similar processing operations.

* * * * *

3. Section 800.61(d)(4) is revised to read as follows:

§ 800.61 Prohibited grain handling practices.

* * * * *

(d) * * *

(4) *Dust suppressants.* Grain may be treated with an additive, other than water, to suppress dust during handling. Elevators, other grain handlers, and their agents are responsible for the proper use and application of dust suppressants. Sections 800.88 and 800.96 include additional requirements for grain that is officially inspected and weighed.

4. Section 800.88(d) is revised to read as follows:

§ 800.88 Loss of identity.

* * * * *

(d) *Additives.*[1] If additives are applied during loading to outbound, including export, grain after sampling or during unloading to inbound grain before sampling for the purpose of insect or fungi control, dust suppression, or identification, the inspection certificate shall show a statement showing the type and purpose of the additive application, except that no statement is required to be shown when the additive is a fumigant applied for the purpose of insect control.

5. Section 800.96(c)(2) is revised to read as follows:

§ 800.96 Weighing procedures.

* * * * *

(c) * * *

(2) *Additives.*[1] If additives are applied during loading to outbound, including export, grain after weighing or during unloading to inbound grain before weighing for the purpose of insect or fungi control, dust suppression, or identification, the weight certificate shall show the actual weight of the grain after the application of the additive for inbound grain or the actual weight of the grain prior to the application of the additive for outbound or export grain and a statement showing the type and purpose of the additive application, except that no statement is required to be shown when the additive is a fumigant applied for the purpose of insect control.

* * * * *

Dated: July 27, 1993.

D. R. Galliant,

Acting Administrator.

[FR Doc. 93–18300 Filed 8–3–93; 8:45 am]

BILLING CODE 3410–EN–M

[1] Elevators, other handlers of grain, and their agents are responsible for the additive's proper usage and application. Compliance with this section does not excuse compliance with applicable Federal, State, and local laws.

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 93–ANE–18]

Airworthiness Directives; EROS Series MF10–[ ]–[ ] Full Face Quick Donning Mask Regulators

AGENCY: Federal Aviation Administration, DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: This document proposes the adoption of a new airworthiness directive (AD) that is applicable to EROS series MF10–[ ]–[ ] full face quick donning mask regulators. This proposal would require replacement of the face piece and the mask shell securing screw. This proposal is prompted by reports of the plastic pin breaking which secures the mask shell with the face piece. The actions specified by the proposed AD are intended to prevent the failure of the pin securing the mask shell to the face piece, which could result in a mask leaking oxygen and the crew losing consciousness.

DATES: Comments must be received by October 4, 1993.

ADDRESSES: Submit comments in triplicate to the Federal Aviation Administration (FAA), New England Region, Office of the Assistant Chief Counsel, Attention: Rules Docket No. 93–ANE–18, 12 New England Executive Park, Burlington, MA 01803–5299. Comments may be inspected at this location between 8 a.m. and 4:30 p.m., Monday through Friday, except Federal holidays. The service information referenced in the proposed rule may be obtained from EROS, P.O. Box 10, 78370 Plaisir, France. This information may be examined at the FAA, New England Region, Office of the Assistant Chief Counsel, 12 New England Executive Park, Burlington, MA.

FOR FURTHER INFORMATION CONTACT: Terry Fahr, Aerospace Engineer, Boston Aircraft Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803–5299; telephone (617) 238–7155, fax (617) 238–7199.

SUPPLEMENTARY INFORMATION:

Comments Invited

Interested persons are invited to participate in the making of the proposed rule by submitting such written data, views, or arguments as they may desire. Communications should identify the Rules Docket number and be submitted in triplicate to the address specified above. All communications received on or before the closing date for comments, specified above, will be considered before taking action on the proposed rule. The proposals contained in this notice may be changed in light of the comments received.

Comments are specifically invited on the overall regulatory, economic, environmental, and energy aspects of the proposed rule. All comments submitted will be available, both before and after the closing date for comments, in the Rules Docket for examination by interested persons. A report summarizing each FAA-public contact concerned with the substance of this proposal will be filed in the Rules Docket.

Commenters wishing the FAA to acknowledge receipt of their comments submitted in response to this notice must submit a self-addressed, stamped postcard on which the following statement is made: "Comments to Docket Number 93–ANE–18." The postcard will be date stamped and returned to the commenter.

Availability of NPRMs

Any person may obtain a copy of this NPRM by submitting a request to the FAA, New England Region, Office of the Assistant Chief Counsel, Attention: Rules Docket No. 93–ANE–18, 12 New England Executive Park, Burlington, MA 01803–5299.

Discussion: The Direction Generale de L'Aviation Civile (DGAC), which is the airworthiness authority for France, recently notified the Federal Aviation Administration (FAA) that an unsafe condition may exist on EROS series MF10–[ ]–[ ] full face quick donning mask regulators. The DGAC advised the FAA that during several flight training exercises the plastic pin which secures the mask shell with the face piece broke due to inadequate strength. This condition, if not corrected, could result in failure of the pin securing the mask shell to the face piece, which could result in a mask leaking oxygen and the crew losing consciousness.

EROS has issued Service Bulletin (SB) No. MF10–35–44, and SB No. MF10–

35–46, both dated June 11, 1991, that specify replacement of the face piece and the mask shell securing screw. The DGAC classified these service bulletins as mandatory and issued AD 91–175(AB) in order to assure the airworthiness of these full face quick donning mask regulators in France.

This full face quick donning mask regulator is manufactured in France and is type certificated for operation in the United States under the provisions of § 21.29 of the Federal Aviation Regulations and the applicable bilateral airworthiness agreement. Pursuant to this bilateral airworthiness agreement, the DGAC has kept the FAA informed of the situation described above. The FAA has examined the findings of the DGAC, reviewed all available information, and determined that AD action is necessary for products of this type design that are certificated for operation in the United States.

Since an unsafe condition has been identified that is likely to exist or develop on other full face quick donning mask regulators of the same type design installed on aircraft registered in the United States, the proposed AD would require replacement of the face piece and the mask shell securing screw. The actions would be required to be accomplished in accordance with the service bulletins described previously.

The FAA estimates that 2500 regulators would be affected by this proposed AD, that it would take approximately 0.5 work hours per regulators to accomplish the proposed actions, and that the average labor rate is $55 per work hour. Based on these figures, the total cost impact of the proposed AD on U.S. operators is estimated to be $68,750. The manufacturer advises that required parts would be supplied at no cost to the operator.

The regulations proposed herein would not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, in accordance with Executive Order 12612, it is determined that this proposal would not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

For the reasons discussed above, I certify that this proposed regulation: (1) Is not a "major rule" under Executive Order 12291; (2) is not a "significant rule" under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and (3) if promulgated, will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act. A copy of the draft regulatory evaluation prepared for this action is contained in the Rules Docket. A copy of it may be obtained by contacting the Rules Docket at the location provided under the caption **ADDRESSES.**

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Safety.

The Proposed Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration proposes to amend 14 CFR part 39 of the Federal Aviation Regulations as follows:

PART 39—AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. App. 1354(a), 1421 and 1423; 49 U.S.C. 106(g); and 14 CFR 11.89.

§ 39.13 [Amended]

2. Section 39.13 is amended by adding the following new airworthiness directive:

Eros: Docket No. 93–ANE–18.

Applicability: EROS series MF10-[]-[] full face quick donning mask regulators installed on but not limited to Airbus A320, Boeing 747–400, British Aerospace (BAe) 125–600 and Jetstream 41, Canadair RJ, Dassault Mystere Falcon 20, McDonnell Douglas MD11, and Piper PA31T and PA42 series aircraft.

Compliance: Required as indicated, unless accomplished previously.

To prevent failure of the pin securing the mask shell to the face piece, which could result in a mask leaking oxygen and the crew losing consciousness, accomplish the following:

(a) For EROS Model MF10–05–01 full face quick donning mask regulators, within six months after the effective date of this AD, replace the face piece and mask shell securing screw in accordance with EROS Service Bulletin (SB) No. MF10–35–44, dated June 11, 1991.

(b) For all other EROS series MF10-[]-[] full face quick donning mask regulators, within six months after the effective date of this AD, replace the face piece and mask shell securing screw in accordance with EROS Service Bulletin (SB) No. MF10–35–46, dated June 11, 1991.

(c) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Manager, Boston Aircraft Certification Office. The request should be forwarded through an appropriate FAA Principal Maintenance Inspector, who may add comments and then send it to the Manager, Boston Aircraft Certification Office.

Note: Information concerning the existence of approved alternative methods of compliance with this airworthiness directive, if any, may be obtained from the Boston Aircraft Certification Office.

(d) Special flight permits may be issued in accordance with FAR 21.197 and 21.199 to operate the aircraft to a location where the requirements of this AD can be accomplished.

Issued in Burlington, Massachusetts, on July 27, 1993.

Jack A. Sain,

Manager, Engine and Propeller Directorate, Aircraft Certification Service.

[FR Doc. 93–18534 Filed 8–3–93; 8:45 am]

BILLING CODE 4910–13–P

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14 CFR Part 39

[Docket No. 93–SW–13–AD]

Airworthiness Directives; Sikorsky Aircraft Model S–76A Series Helicopters

AGENCY: Federal Aviation Administration, DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: This document proposes the supersedure of an existing airworthiness directive (AD), applicable to Sikorsky Aircraft Model S–76A series helicopters, that currently requires an initial and repetitive inspections of the tail rotor (T/R) blade spar elliptical centering plug (centering plug) for disbonding and adds a pressure pad between the T/R gearbox output shaft and the inboard T/R spar. This action would require the same design changes and procedures as the previous AD, except that it would eliminate the 500 hours' time-in-service repetitive inspections for centering plug debonding. This proposal is prompted by an improved bonding and repair procedure and the lack of reports concerning the movement or debonding of the centering plug. The actions specified by the proposed AD are intended to prevent the centering plug from debonding and moving out of position, which could result in loss of tail rotor control, and subsequent loss of control of the helicopter.

DATES: Comments must be received by September 20, 1993.

ADDRESSES: Submit comments in triplicate to the Federal Aviation Administration (FAA), Office of the Assistant Chief Counsel, Attention: Rules Docket No. 93–SW–13–AD, 4400 Blue Mound Road, bldg. 3B, room 158, Fort Worth, Texas 76106. Comments may be inspected at this location

between 9 a.m. and 3 p.m., Monday through Friday, except Federal holidays. The service information referenced in the proposed rule may be obtained from Sikorsky Aircraft, Commercial Customer Support, 6900 Main Street, Stratford, Connecticut 06601–1381. This information may be examined at the FAA, Office of the Assistant Chief Counsel, 4400 Blue Mound Road, bldg. 3B, room 158, Fort Worth, Texas.

FOR FURTHER INFORMATION CONTACT: Mr. Donald F. Thompson, Aerospace Engineer, Airframe Section, ANE–152, FAA, Boston Aircraft Certification Office, New England Region, 12 New England Executive Park, Burlington, Massachusetts 01803, telephone (617) 273–7113, fax (617) 270–2412.

SUPPLEMENTARY INFORMATION:

Comments Invited

Interested persons are invited to participate in the making of the proposed rule by submitting such written data, views, or arguments as they may desire. Communications should identify the Rules Docket number and be submitted in triplicate to the address specified above. All communications received on or before the closing date for comments, specified above, will be considered before taking action on the proposed rule. The proposals contained in this notice may be changed in light of the comments received.

Comments are specifically invited on the overall regulatory, economic, environmental, and energy aspects of the proposed rule. All comments submitted will be available, both before and after the closing date for comments, in the Rules Docket for examination by interested persons. A report summarizing each FAA-public contact concerned with the substance of this proposal will be filed in the Rules Docket.

Commenters wishing the FAA to acknowledge receipt of their comments submitted in response to this notice must submit a self-addressed, stamped postcard on which the following statement is made: "Comments to Docket Number 93–SW–13–AD." The postcard will be date stamped and returned to the commenter.

Availability of NPRMs

Any person may obtain a copy of this NPRM by submitting a request to the FAA, Office of the Assistant Chief Counsel, Attention: Rules Docket No. 93–SW–13–AD, 4400 Blue Mound Road, bldg. 3B, room 158, Fort Worth, Texas 76106.

Discussion

On March 7, 1984, the FAA issued AD 84–06–02, Amendment 39–4829, (49 FR 10922, March 23, 1984), to require an initial and repetitive inspections of the tail rotor (T/R) blade elliptical centering plug (centering plug) for disbonding, and to add a pressure pad between the gearbox output shaft and the inboard T/R spar. That action was prompted by three reports of the centering plug debonding from the T/R spar. One report was received of severe in-flight vibrations. An inspection revealed the debonding and lateral movement of the centering plug from the T/R spar, and displacement of the T/R. The requirements of that AD are intended to prevent the centering plug from debonding from the T/R spar and moving out of position, which could result in loss of tail rotor control and subsequent loss of control of the helicopter.

Since the issuance of that AD, Sikorsky Aircraft has developed improved bonding and repair techniques that have resolved the centering plug debonding problem. Also, the addition of the pressure pad between the T/R gearbox output shaft and the inboard T/R spar prevents movement of the centering plug in the event of debonding. Since the previous AD was issued, there have been no reports of centering plug debonding or movement. Also, the Airworthiness Limitations Section of the Sikorsky Model S–76A Maintenance Manual mandates an inspection of the tail rotor composite components, including the centering plug, at intervals not to exceed 750 hours' time-in-service. Therefore, the FAA proposes that the safety concerns precipitating the repetitive inspection at 500 hours' time-in-service intervals described in Sikorsky Aircraft Alert Service Bulletin No. 76–65–35 (ASB), and mandated by AD 84–06–02 have been alleviated by the installation of the pressure pad and by the mandatory T/R composite component inspections at intervals not to exceed 750 hours' time-in-service. Therefore, the repetition 500 hours' time-in-service inspections are no longer necessary.

Since an unsafe condition has been identified that is likely to exist or develop on other products of this same type design, the proposed AD would supersede AD 84–06–02 to require the same initial inspection and the installation of a pressure pad, part number (P/N) 76102–05004–111, between the inboard T/R blade spar assembly and the T/R gearbox output shaft. However, the 500 hours' time-in-service repetitive inspections would be discontinued.

There are approximately 190 Sikorsky Aircraft Model S–76A series helicopters of the affected design in the worldwide fleet. The FAA estimates that 150 helicopters of U.S. registry would be affected by this proposed AD, that it would save approximately 4 work hours per helicopter by discontinuing the current 500 hours' time-in-service repetitive inspections, and that the average labor rate is $55 per work hour. Based on these figures, the annual cost savings of the proposed elimination of these AD inspections on U.S. operators is estimated to be $33,000 annually.

The regulations proposed herein would not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, in accordance with Executive Order 12612, it is determined that this proposal would not have sufficient federalism implications to warrant the preparation of a Federalism Assessment

For the reasons discussed above, I certify that this proposed regulation (1) is not a "major rule" under Executive Order 12291; (2) is not a "significant rule" under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and (3) if promulgated, will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act. A copy of the draft regulatory evaluation prepared for this action is contained in the Rules Docket. A copy of it may be obtained by contacting the Rules Docket at the location provided under the caption **ADDRESSES.**

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Safety.

The Proposed Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration proposes to amend 14 CFR part 39 of the Federal Aviation Regulations as follows:

PART 39—AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. App. 1354(a), 1421 and 1423; 49 U.S.C. 106(g); and 14 CFR 11.89.

§ 39.13 [Amended]

2. Section 39.13 is amended by removing Amendment 39–4829, (49 FR 10922, March 23, 1984) and by adding a new airworthiness directive (AD), to read as follows:

Sikorsky Aircraft: Docket No. 93–SW–13–AD. Supersedes AD 84–06–02, Amendment 39–4829, Docket No. 84–ASW–8.

Applicability: Model S–76A series helicopters, certificated in any category.

Compliance: Required within the next 25 hours' time-in-service after the effective date of this AD, unless accomplished previously.

To prevent the tail rotor blade (T/R) spar elliptical centering plug (centering plug) from debonding and moving out of position, which could result in loss of tail rotor control and loss of control of the helicopter, accomplish the following for blades, part numbers (P/N) 76101–05001 and 76101–05101 series, with more than 130 hours' total time-in-service.

(a) Remove the blades in accordance with the Maintenance Manual and inspect the centering plug for disbonding of the polyurethane filler that fills the space between the aluminum centering plug and the graphite T/R spar in accordance with Sikorsky Aircraft Alert Service Bulletin 76–65–35A, Revision A, dated February 29, 1984 (ASB).

(1) If the inspection of the centering plug shows no evidence of disbonding greater than one-half inch in length, install a pressure pad in accordance with paragraph 2.C. of the Accomplishment Instructions of the ASB.

(2) For disbonds greater than one-half inch, but less than 2 inches in length, repair the blade in accordance with paragraph 2.B.(1) of the Accomplishment Instructions of the ASB.

(3) For disbonds equal to or greater than 2 inches in length, but not complete disbonds, or for disbonded centering plugs with the polyurethane filler excessively cracked or deteriorated to the extent of breaking away from the T/R spar or the centering plug, remove the blade from service and replace with an airworthy blade.

(4) For T/R spars with complete T/R spar to centering plug disbond in which the polyurethane filler is intact and remains fully bonded to the centering plug, repair in accordance with paragraph 2.B.(2) of the Accomplishment Instructions of the ASB.

(5) For T/R spars with complete polyurethane filler to centering plug disbond in which the polyurethane filler is intact and remains fully bonded to the T/R spar, repair in accordance with paragraph 2.B.(3) of the Accomplishment Instructions of the ASB.

(b) Install pressure pad, P/N 76102–05004–111, in accordance with paragraph 2.C. of the Accomplishment Instructions of the ASB.

(c) An alternative method of compliance or adjustment of the compliance time, which provides an acceptable level of safety, may be used when approved by the Manager, Boston Aircraft Certification Office, Airframe Section, FAA, New England Region, 12 New England Executive Park, Burlington, Massachusetts 01803–5299. Operators shall submit their requests through an FAA Principal Maintenance Inspector, who may concur or comment and then send it to the Manager, Boston Aircraft Certification Office.

Note: Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Boston Aircraft Certification Office.

(d) Special flight permits may be issued in accordance with FAR 21.197 and 21.199 to operate the aircraft to a location where the requirements of this AD can be accomplished if a pressure pad has been installed.

Issued in Fort Worth, Texas, on July 16, 1993.

Eric D. Bries,

Acting Manager, Rotorcraft Directorate, Aircraft Certification Service.

[FR Doc. 93–18566 Filed 8–3–93; 8:45 am]

BILLING CODE 4910-13-P

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14 CFR Part 39

[Docket No. 93–SW–09–AD]

Airworthiness Directives; Schweizer Aircraft Corporation and Hughes Helicopters, Inc. Model 269A, 269A–1, 269B, 269C, and TH–55A Series Helicopters

AGENCY: Federal Aviation Administration, DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: This document proposes the adoption of a new airworthiness directive (AD) that is applicable to Schweizer Aircraft Corporation and Hughes Helicopters, Inc. Model 269A, 269A–1, 269B, 269C, and TH–55A series helicopters. This proposal would require mandatory replacement of all the clevis pins associated with the belt drive clutch control installation. This proposal is prompted by an accident involving the separation of the belt drive clutch control spring assembly (spring assembly) from the idler pulley assembly. The actions specified by the proposed AD are intended to prevent separation of the spring assembly from the idler pulley assembly, loss of power to the main rotor system, and a subsequent forced landing.

DATES: Comments must be received by October 4, 1993.

ADDRESSES: Submit comments in triplicate to the Federal Aviation Administration (FAA), Office of the Assistant Chief Counsel, Attention: Rules Docket No. 93–SW–09–AD, 4400 Blue Mound Road, Bldg. 3B, room 158, Fort Worth, Texas 76106. Comments may be inspected at this location between 9 a.m. and 3 p.m., Monday through Friday, except Federal holidays.

The service information referenced in the proposed rule may be obtained from Schweizer Aircraft Corporation, P.O. Box 147, Elmira, New York 14902. This information may be examined at the FAA, Office of the Assistant Chief Counsel, 4400 Blue Mound Road, Bldg. 3B, room 158, Fort Worth, Texas.

FOR FURTHER INFORMATION CONTACT: Mr. Raymond Reinhardt, Aerospace Engineer, New York Aircraft Certification Office, FAA, Propulsion Branch, ANE–174, New England Region, 181 South Franklin Avenue, Valley Stream, New York 11581, telephone (516) 791–7421, fax (516) 791–9024.

SUPPLEMENTARY INFORMATION:

Comments Invited

Interested persons are invited to participate in the making of the proposed rule by submitting such written data, views, or arguments as they may desire. Communications should identify the Rules Docket number and be submitted in triplicate to the address specified above. All communications received on or before the closing date for comments, specified above, will be considered before taking action on the proposed rule. The proposals contained in this notice may be changed in light of the comments received.

Comments are specifically invited on the overall regulatory, economic, environmental, and energy aspects of the proposed rule. All comments submitted will be available, both before and after the closing date for comments, in the Rules Docket for examination by interested persons. A report summarizing each FAA-public contact concerned with the substance of this proposal will be filed in the Rules Docket.

Commenters wishing the FAA to acknowledge receipt of their comments submitted in response to this notice must submit a self-addressed, stamped postcard on which the following statement is made: "Comments to Docket Number 93–SW–09–AD." The postcard will be date stamped and returned to the commenter.

Availability of NPRMs

Any person may obtain a copy of this NPRM by submitting a request to the FAA, Office of the Assistant Chief Counsel, Attention: Rules Docket No. 93–SW–09–AD, 4400 Blue Mound Road, Bldg. 3B, room 158, Fort Worth, Texas 76106.

Discussion

On December 1, 1992, there was a reported in-flight failure of a clutch control spring assembly on a Model 269C helicopter. An investigation

revealed that the belt drive clutch control spring assembly (spring assembly) separated from the idler pulley assembly at the large clevis pin that secures the spring housing to the upper spring fitting. That condition, if not corrected, could result in separation of the spring assembly from the idler pulley assembly, loss of power to the main rotor system, and a subsequent forced landing.

The FAA has reviewed and approved Schweizer Aircraft Corporation Service Bulletin B–256.2, dated June 11, 1993 (SB), that describes procedures for replacing the four clevis pins associated with the belt drive clutch control installation with threaded fasteners. The location of the clevis pins and the replacement parts are described in Part II, Figure B–256.2–1, Notes 1 through 4 of the SB.

Since an unsafe condition has been identified that is likely to exist or develop on other products of this same type design, the proposed AD would require replacement of the four clevis pins for the belt drive clutch control installation. The actions would be required to be accomplished in accordance with the service bulletin described previously.

The FAA estimates that 1,100 helicopters of U.S. registry would be affected by this proposed AD, that it would take approximately one-half work hour per helicopter to accomplish the proposed actions, and that the average labor rate is $55 per work hour. Required parts would cost approximately $10 per helicopter. Based on these figures, the total cost impact of the proposed AD on U.S. operators is estimated to be $41,250.

The regulations proposed herein would not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, in accordance with Executive Order 12612, it is determined that this proposal would not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

For the reasons discussed above, I certify that this proposed regulation (1) is not a "major rule" under Executive Order 12291; (2) is not a "significant rule" under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and (3) if promulgated, will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act. A copy of the draft regulatory evaluation prepared for this action is contained in the Rules Docket. A copy of it may be obtained by contacting the Rules Docket at the location provided under the caption **ADDRESSES.**

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Safety.

The Proposed Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration proposes to amend 14 CFR part 39 of the Federal Aviation Regulations as follows:

PART 39—AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. App. 1354(a), 1421 and 1423; 49 U.S.C. 106(g); and 14 CFR 11.89.

§ 39.13 [Amended]

2. Section 39.13 is amended by adding the following new airworthiness directive:

Schweizer Aircraft Corporation and Hughes Helicopters, Inc.: Docket No. 93–SW–09–AD.

Applicability: Model 269A, 269A–1, 269B, and TH–55A series helicopters, and Model 269C series helicopters with serial numbers (S/N) prior to S/N 1632, certificated in any category.

Compliance: Required as indicated, unless accomplished previously.

To prevent separation of the belt drive clutch control spring assembly (spring assembly) from the idler pulley assembly, loss of power to the main rotor system, and a subsequent forced landing of the helicopter, accomplish the following:

(a) Within the next 400 hours' time-in-service, or on or before January 13, 1994, whichever comes first, replace the clevis pins in the spring assembly with bolts in accordance with Part II of Schweizer Aircraft Corporation Service Bulletin B–256.2, dated June 11, 1993 (SB).

(b) An alternative method of compliance or adjustment of the compliance time, which provides an acceptable level of safety, may be used when approved by the Manager, New York Aircraft Certification Office, FAA, Propulsion Branch, ANE–174, New England Region, 181 South Franklin Avenue, Valley Stream, New York 11581. Operators shall submit their requests through an FAA Principal Maintenance Inspector, who may concur or comment and then send it to the Manager, New York Aircraft Certification Office.

Note: Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the New York Aircraft Certification Office.

(c) Special flight permits may be issued in accordance with FAR 21.197 and 21.199 to operate the helicopter to a location where the requirements of this AD can be accomplished.

Issued in Fort Worth, Texas, on July 12, 1993.

James D. Erickson,

Manager, Rotorcraft Directorate, Aircraft Certification Service.

[FR Doc. 93–18565 Filed 8–3–93; 8:45 am]

BILLING CODE 4910–13–P

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

Office of the Assistant Secretary for Housing—Federal Housing Commissioner

24 CFR Part 200

[Docket No. R–93–1623; FR–3028–P–01]

RIN 2502–AF26

Changes to the Minimum Property Standards

AGENCY: Office of the Assistant Secretary for Housing-Federal Housing Commissioner, HUD.

ACTION: Proposed rule.

SUMMARY: This proposed rule would amend the Minimum Property Standards (MPS) in 24 CFR part 200, subpart S, to specify that seismic design is a mandatory standard for applicable housing. In addition, the rule would update a reference to a private sector seismic design standard currently incorporated into the MPS, and would substitute a new standard for swimming pools. These changes to the MPS are needed to comply with the requirements of Executive Order 12699, the National Earthquake Hazards Reduction Program Reauthorization Act, and the Cranston-Gonzalez National Affordable Housing Act, and to keep referenced industry standards current. These revisions would ensure the structural integrity of applicable housing, and would protect the Department's insurance fund.

DATES: Comment due date: October 4, 1993.

ADDRESSES: Interested persons are invited to submit comments regarding this rule to the rules Docket Clerk, Office of General Counsel, room 10276, Department of Housing and Urban Development, 451 Seventh Street SW., Washington, DC 20410-0500. Communications should refer to the above docket number and title. A copy of each communication submitted will be available for public inspection and copying between 7:30 a.m. and 5:30 p.m. weekdays at the above address.

FOR FURTHER INFORMATION CONTACT:

Donald R. Fairman, Chief, Standards and Products Branch, Department of Housing and Urban Development, 451 Seventh Street SW., Mail Room B133, Washington, DC 20410–8000, telephone (202) 755–7440, or (202) 708–4594 (voice/TDD). (These are not toll-free telephone numbers.).

SUPPLEMENTARY INFORMATION:

Background

All housing constructed under Department of Housing and Urban Development ("Department" or "HUD") mortgage insurance and low-rent public housing programs is required to meet or exceed HUD-established Minimum Property Standards. This proposed rule concerns those property standards applicable to multifamily and care-type housing and to one- and two-family dwellings. Because manufactured homes eligible for insurance are subject to different minimum standards, the Department will propose a separate rule to mandate seismic standards appropriate for that category of housing.

The National Housing Act, 12 U.S.C. 1701–1750g, authorizes the Secretary of Housing and Urban Development (Secretary) to prescribe standards for determining the acceptability of care-type facilities and one- and two-family and multifamily residential structures. See, e.g., 12 U.S.C. 1715*l*(f), concerning the acceptability of property for mortgage insurance. Accordingly, the Secretary prescribed minimum property standards in 24 CFR part 200, subpart S. Provisions governing the health and safety criteria applicable to multifamily housing were simplified in 1984 (49 FR 18690, May 1, 1984), to rely on criteria already established in State or local codes or nationally recognized model codes.

This simplification was extended to care-type housing insured under HUD programs by a final rule published August 11, 1986 (51 FR 28696). The change implemented by that rule consolidated the requirements applicable to multifamily and care-type housing, allowing the Department to rely on established codes that have been determined by HUD to be comparable to one of the national model codes.

By a separate rule (50 FR 39586, September 27, 1985), the minimum property standards applicable to one- and two-family dwelling also were simplified to rely on criteria already established in State or local codes or one of the nationally recognized model codes. This rule was described (50 FR 39586) as being similar in many respects to the 1984 rule amending the minimum property standards for multifamily housing.

Executive and Legislative Mandates

Recently, the Department has become subject to three separate directives that require it to address seismic safety issues in regulations governing programs operated by the Department. The first of these directives is an Executive Order issued by former President Bush. The other two directives are the National Earthquake Hazards Reduction Program Reauthorization Act, approved November 16, 1990 (Pub. L. 101–614) (NEHRP Reauthorization Act), and section 947 of the Cranston-Gonzalez National Affordable Housing Act, approved November 28, 1990 (Pub. L. 101–625) (NAHA).

On January 5, 1990, the President signed Executive Order 12699, "Seismic Safety of Federal and Federally Assisted or Regulated New Building Construction" (Executive Order). In part, the purpose of this Executive Order is "to reduce risks to the lives of persons who would be affected by earthquake failures of federally assisted or regulated buildings, and to protect public investments, all in a cost-effective manner." The Executive Order applies only to new buildings being constructed with federal involvement. Each federal agency is made responsible for developing and implementing its own cost-effective seismic safety program commensurate with its specific program responsibilities. However, section 4(a) of the Executive Order charges the Interagency Committee on Seismic Safety in Construction (ICSSC) to use consensus procedures in recommending cost-effective seismic design and construction standards that would satisfy the requirements of the Executive Order. The Department has been working with the ICSSC to identify and meet the Department's responsibilities under the Executive Order.

Although the Executive Order does not create rights that make it privately enforceable, its provisions are made mandatory by section 8(a) of the NEHRP Reauthorization Act. Under the NEHRP Reauthorization Act each federal agency is required to issue, by February 1, 1993, final regulations that comply with the Executive Order.

Finally, section 947 of NAHA requires the Secretary to develop seismic safety standards for properties assisted under HUD programs. The Secretary expressly is permitted to defer to local building codes that meet the seismic safety requirements established, and is authorized to utilize the resources of the National Earthquake Hazards Reduction Program (see 42 U.S.C. 7704).

The ICSSC was established as part of this Program in 1978, in response to the Earthquake Hazards Reduction Act of 1977 (42 U.S.C. 7701–7706). Since that time, the ICSSC has been working with federal agencies and the private sector to develop appropriate, generally recognized, seismic safety standards. As part of their efforts, the ICSSC is undertaking a wide-reaching analysis of State and local building codes to determine equivalency to accepted and evolving seismic safety standards incorporated in national model building codes. This proposed rule would permit the Department to benefit from the efforts of the ICSSC, by referencing private sector seismic design and construction standards, as intended under section 3(a) of the Executive Order.

The Department expects to follow the recommendations of the ICSSC in applying the requirements that would be established by the proposed rule, as long as those recommendations would promote the purposes of the Department's programs. For example, the seismic safety requirements would apply where HUD assistance is provided through loan or mortgage insurance programs, and the requirements will apply to additions and renovations to existing buildings.

Further, an addition or renovation should not decrease the seismic resistance of an existing building .

Referenced Standard for Seismic Design

Since 1984, most of the standards referenced in the MPS have been changed. One of the recent changes adopted by the American Society of Civil Engineers (ASCE) in 1988, but not published until July 1990, is referenced in the HUD MPS 4901.1 and 24 CFR part 200 as ANSI Standard A58.1–1982, Minimum Design Loads for Buildings and Other Structures. With the sponsorship change of this standard from the American National Standards Institute (ANSI) to the American Society of Civil Engineers (ASCE), and the revisions published by ASCE in 1990, the Department is proposing to revise its reference to this standard to be consistent with section 526 of the National Housing Act, OMB Circular A–119 and the goals of the Department. Specifically, the Department is proposing to adopt the current edition of the standard, known as ASCE 7–88, as published by the ASCE.

Adoption of this standard does not represent any substantive change in the standards applied by HUD, but merely

recognizes the change in sponsorship of the standard from ANSI to the ASCE. The ANSI Standard, A58.1–1982, is currently referenced in appendix B to 24 CFR part 200, and in part 200, subpart S.

In addition, the Department is proposing changes to update the address of ANSI, add the American Society of Civil Engineers to the list of recognized standards-development organizations, and correct minor typographical errors in the current regulatory text.

Referenced Standard for Swimming Pools

Similarly, the Department is proposing to replace the standard for swimming pools currently incorporated by reference in the minimum property standards for housing. The current standard, published in HUD Handbook 4940.1, is dated October 1972. The Department proposes to replace this outdated standard with the Standard for Public Swimming Pools approved on February 18, 1991, by the American National Standards Institute, known as ANSI/NSPI–1–1991. The Department believes this change also will be consistent with OMB Circular A–119 and the Department's policy of assuring quality construction for affected properties. Appendix A to 24 CFR part 200 would be amended to reflect the proposed change in swimming pool standards.

Other Matters

Major Rule

This rule does not constitute a "major rule" as that term is defined in section 1(b) of the Executive Order on Federal Regulations issued by the President on February 17, 1981. An analysis of the rule indicates that it does not (1) have an annual effect on the economy of $100 million or more; (2) cause a major increase in costs or prices for consumers, individual industries, federal, state, or local government agencies, or geographic regions, or (3) have a significant adverse effect on competition, employment investment, productivity, innovation, or on the ability of United States-based enterprises to compete with foreign-based enterprises in domestic or export markets.

Regulatory Flexibility Act

The Secretary, in accordance with the Regulatory Flexibility Act (5 U.S.C. 605(b)), has reviewed this rule before publication and by approving it certifies that this rule does not have a significant economic impact on a substantial number of small entities. The major portion of the rule is designed to effectuate statutory requirements broadly, so that affected parties are permitted to choose among reasonable alternatives in complying with the statutory requirements. Generally, these requirements are imposed separately—through State and local building codes that have been, or are being, updated to include the seismic safety standards. This rule would comply with the statutory requirements by specifically referencing existing standards, which have been reviewed and determined to be adequate. The remainder of the rule is limited to routine updating of material incorporated by reference, including titles and addresses, and to updating the minimum property standard applicable to swimming pools.

Environmental Impact

A finding of no significant impact with respect to the environment has been made in accordance with HUD regulations at 24 CFR part 50, which implement section 102(2)(C) of the National Environmental Policy Act of 1969. The finding of no significant impact is available for public inspection between 7:30 a.m. and 5:30 p.m. weekdays in the office of the Rules Docket Clerk at the above address.

Executive Order 12612, Federalism

The General Counsel, as the Designated Official under section 6(a) of Executive Order 12612, Federalism, has determined that the policies contained in this proposed rule have federalism implications, and are subject to review under the order. Specifically, the rule provides for additional building design and construction standards to be applied to certain buildings in which federal assistance is provided. Because current building standards are met largely though compliance with existing State and local building codes, the additional requirement imposed by this rule may encourage States and local jurisdictions to adopt more stringent seismic design standards. This approach would allow local contractors to continue to rely upon the State and local codes in building to meet any federal requirements.

However, this rule is intended to implement statutory requirements that are broadly applicable to federal programs government-wide, and are not limited to HUD programs. In an effort for consistency and simplification, and as a result of information provided by the Interagency Committee on Seismic Safety in Construction, a great majority of State and local governments have already adopted acceptable seismic design and construction standards in their State and local codes. In large part, the movement to include seismic standards in building design and construction was led by national model code organizations, whose model codes are often adopted by State and local governments.

Therefore, while the Department recognizes the potential federalism implications of this rule, the Department believes any federalism impact on State and local governments would be a function of the government-wide federal requirements, rather than this discrete rule. Therefore, a more comprehensive review under Executive Order 12612 is not required, because the implementation of the statutes and Executive Order 12699 leaves little discretion with the Department to lessen these impacts.

Executive Order 12606, the Family

The General Counsel, as the Designated Official under Executive Order 12606, the Family, has determined that this rule does not have potential for significant impact on family formation, maintenance, and general well-being, and, thus, is not subject to review under the order. No significant change in existing HUD policies or programs will result from promulgation of this rule, as those policies and programs relate to family concerns.

Regulatory Agenda

This rule was listed as Item No. 1420 in the Department's Semiannual Agenda of Regulations published on April 26, 1993 (58 FR 24404), in accordance with Executive Order 12291 and the Regulatory Flexibility Act.

List of Subjects in 24 CFR Part 200

Administrative practice and procedure, Claims, Equal employment opportunity, Fair housing, Home improvement, Housing standards, Lead poisoning, Loan programs—housing and community development, Mortgage insurance, Organization and functions (Government agencies), Reporting and recordkeeping requirements, Social security.

For the reasons set out in the preamble, title 24, part 200 of the Code of Federal Regulations, is proposed to be amended as follows:

PART 200—INTRODUCTION

1. The authority citation for part 200 would continue to read as follows:

Authority: 12 U.S.C. 1701–1715z–18; 42 U.S.C. 3535(d).

Subpart S—Minimum Property Standards

2. Section 200.925a would be amended by revising paragraph (c)(2) to read as follows:

§ 200.925a Multifamily and care-type minimum property standards.

* * * * *

(c) * * *

(2) A State or local building code will be partially accepted if it regulates most of the areas on the list. However, no code may be partially accepted if it fails to regulate seismic design, or if it fails to regulate subareas in more than one of the following major areas; fire safety, light and ventilation, structural loads and seismic design, foundation systems, materials standards, construction components, glass, mechanical, plumbing, electrical, and elevators. See § 200.925b.

* * * * *

3. Section 200.925b would be amended by revising the heading of paragraph (c) and paragraph (c)(5) to read as follows:

§ 200.925b Residential and institutional building code comparison items.

* * * * *

(c) *Structural loads and seismic design.* * * *

(5) Earthquake loads (in localities identified by ASCE–7–88 (formerly ANSI A58.1–82) as being in seismic zones 1, 2, 3, or 4, and Guam).

* * * * *

4. Section 200.925c would be amended by revising paragraph (c) to read as follows:

§ 200.925c Model codes.

* * * * *

(c) *Designation of model codes.* When a multifamily or care-type property is to comply with a mode code, it shall comply with one of the model codes designated in paragraphs (c)(1), (2), or (3) of this section, and with any other code or codes identified in the same paragraph. However, seismic design is a mandatory requirement. In addition, the property shall comply with all of the standards that are incorporated into the code or codes by reference. By the time of application for insurance or other benefits, the developer or other interested party shall notify the Department of the code or group of codes to which the developer intends to comply.

* * * * *

5. Section 200.926 would be amended by revising paragraph (c)(2) to read as follows:

§ 200.926 Minimum property standards for one and two family dwellings.

* * * * *

(c) * * *

(2) A State or local building code will be partially accepted if it regulates most of the areas on the list. However, no code may be partially accepted if it fails to regulate seismic design, or if it fails to regulate subareas in more than one of the following major areas: Fire safety, light and ventilation, structural loads and seismic design, foundation systems, materials standards, construction components, glass, mechanical, plumbing, and electrical. See § 200.926a.

* * * * *

6. Section 200.926a would be amended by revising paragraphs (c)(3) and (5) to read as follows:

§ 200.926a Residential building code comparison items.

* * * * *

(c) *Structural loads and seismic design.*

* * * * *

(3) Snow loads (for jurisdictions with snow loading conditions identified in Section 7 of ASCE–7–88 (formerly ANSI A58.1–82);

* * * * *

(5) Earthquake loads (for jurisdictions in seismic zones 3 or 4, as identified in section 9 of ASCE–7–88 (formerly ANSI A58.1–82).

* * * * *

7. The table in § 200.926c would be amended by revising the first column heading to read "Deficient major items from § 200.926a as determined by field office review" and by revising item (c) in the first column to read "(c) Structural loads and seismic design".

8. Section 200.926e would be amended by revising paragraphs (b), (c) introductory text, (c)(2), and (d) to read as follows:

§ 200.926e Supplemental information for use with the CABO One and Two Family Dwelling Code.

* * * * *

(b) *Roof snow load.* The roof snow load shall be in accordance with Section 7 of ASCE–7–88 (formerly ANSI A58.1–82).

(c) *Wind pressures.* The minimum Design Wind Pressures (net pressures) set forth below apply to areas designated as experiencing basic wind speeds up to and including 80 mph, as shown in ASCE–7–88 (formerly ANSI A58.1–82), Figure 1, Basic Wind Speed Map. These pressures also apply to buildings not over 30 feet in height above finish grade, assuming exposure C as defined in ASCE–7–88.

* * * * *

(2) *Severe wind design pressures.* If the construction is higher than 30 feet, or if it is located in an area experiencing wind speeds greater than 80 mph, higher design wind pressures than shown above are required. Use Section 6 of ASCE–7–88 (formerly ANSI A58.1–82) for higher criteria and for determining where wind speeds greater than 80 mph occur. Pressures are assumed to act horizontally on the gross area of the vertical projection of the structure, except as noted for roof design.

(d) Seismic conditions shall be in accordance with Section 9 of ASCE–7–88 (formerly ANSI A58.1–82).

* * * * *

§§ 200.937, 200.938, 200.939 [Amended]

9. Sections 200.937(a)(2), 200.938(a)(2), and 200.939(a)(2) would be amended, respectively, by revising the address, "1430 Broadway, New York, NY 10018" to read as follows: "11 West 42nd Street, New York, NY 10036".

10. Appendix A to part 200 would be amended by revising the address of the American National Standards Institute; by adding a new standard in the American National Standards Institute list after ANSI A161.1–80; by adding in alphabetical order a new organization and its standard following the American National Standards Institute; and by removing "4940.1–10/72 Minimum Property Standards for Semi-private Swimming Pools and Wading Pools" listed under the Department of Housing and Urban Development, Handbooks, to read as follows:

Appendix A to Part 200—Standards Incorporated By Reference in the Minimum Property Standards for Housing (HUD 4910.1)

* * * * *

American National Standards Institute, 11 West 42nd Street, New York, NY 10036.

* * * * *

ANSI/NSPI–1–1991 Standard for Public Swimming Pools

* * * * *

American Society of Civil Engineers, 345 East 47th Street, New York, NY 10017.

ASCE–7–88 Minimum Design Loads for Buildings and Other Structures (formerly ANSI A58.1–82).

* * * * *

11. Appendix B to part 200 would be amended by removing the listing for the "American National Standards Institute" and its standard, and by adding in alphabetical order a new organization and its standard to read as follows:

Appendix B to Part 200—Standards Incorporated By Reference in the Minimum Property Standards for One and Two Family Dwellings

* * * * *

American Society of Civil Engineers, 345 East 47th Street, New York, NY 10017. ASCE–7–88 Minimum Design Loads for Buildings and Other Structures (formerly ANSI A58.1–82).

* * * * *

Dated: June 1, 1993.

Nicolas P. Retsinas,

Assistant Secretary for Housing-Federal Housing Commissioner.

[FR Doc. 93–18475 Filed 8–3–93; 8:45 am]

BILLING CODE 4210–27–M

DEPARTMENT OF TREASURY

Fiscal Service

31 CFR Part 209

RIN 1510–AA30

Payment to Financial Institutions for Credit to Accounts of Employees and Beneficiaries

AGENCY: Financial Management Service, Fiscal Service, Treasury.

ACTION: Supplemental proposed rule.

SUMMARY: On December 4, 1992, the Financial Management Service (FMS) published a notice of proposed rulemaking revising 31 CFR part 209 (57 FR 57400). That notice invited comments for a 30 day period ending January 4, 1993. No comments were received. A review of part 209 conducted independently of the formal notice and comment procedure determined that an additional revision to the language of part 209, not included in the December 4, 1992, notice, is necessary. This supplemental proposed rule provides the opportunity for formal notice and comment on the additional change. The language of § 209.4(c) also was revised to enhance readability and clarify meaning.

DATES: Comments must be submitted by September 3, 1993.

FOR FURTHER INFORMATION CONTACT: Janelle W. Edgar, Program Analyst, 202–874–6644.

SUPPLEMENTARY INFORMATION: On December 4, 1992, a notice of proposed rulemaking to revise this regulation was published (57 FR 57400). The notice invited comments for a 30 day period ending January 4, 1993. No comments were received.

As a consequence of an agency review conducted independently from that formal notice and comment procedure, it has been determined that an additional revision to the language of 31 CFR 209.4(c) is necessary prior to publication of a final rule revising part 209. The revised language of part 209, as published on December 4, 1992, requires the head of an agency to authorize the appropriate disbursing officer to draw a check for the total amount in favor of a financial institution (including a financial institution that is not a participating Automated Clearing House receiver) if that financial institution has been designated by two or more employees under the procedures set out in § 209.4(b). That provision is inconsistent with the language of the underlying statute. The language of 31 U.S.C. 3332(c) provides that the head of an agency may authorize such a transfer. The intended effect of this notice is to revise the language of part 209 to comport with the discretionary language of 31 U.S.C. 3332(c). The language of 31 CFR 209.4(c) has also been revised to enhance readability and clarify meaning.

Treasury has determined that this is not a major rule as defined by Executive Order 12291. Accordingly, a regulatory impact analysis is not required. Any economic or other consequences resulting from this revision will be a direct result of harmonizing the language of the regulation with the language of the underlying statute, and, therefore, the implementation of that statute.

It is hereby certified that this revision will not have a significant economic impact on a substantial number of small entities. Accordingly, a Regulatory Flexibility Act analysis is not required. Any such impact flows directly from the implementation of the language of 31 U.S.C. 3332(c).

List of Subjects in 31 CFR Part 209

Banks, banking, Government employees, wages.

For reasons set out in the preamble, 31 CFR part 209 is amended as set forth below.

1. The authority citation continues to read as follows:

Authority: 31 U.S.C. 321, 3322, and 3332.

2. Section 209.4 is amended by revising paragraph (c) to read as follows:

§ 209.4 Payments of net pay for employees.

* * * * *

(c) Whenever, under the procedures set out in paragraph (b) of this section, payments are made by an agency on the same regularly recurring dates to two or more employees who designate the same financial institution, the head of the agency may authorize the appropriate disbursing officer to draw a check for the total amount in favor of that institution for credit to the accounts of the employees. If directed by the head of an agency, the disbursing officer shall draw the check in that manner if the financial institution has agreed to such an arrangement.

Russell D. Morris,

Commissioner.

[FR Doc. 93–18531 Filed 8–3–93; 8:45 am]

BILLING CODE 4810–35–M

DEPARTMENT OF TRANSPORTATION

Coast Guard

33 CFR Part 100

[CGD 05–93–053]

Special Local Regulations for Marine Events; Severn River, College Creek, and Weems Creek, Annapolis, MD

AGENCY: Coast Guard, DOT.

ACTION: Notice of proposed rulemaking.

SUMMARY: The Coast Guard is proposing to establish permanent special local regulations for the Blue Angels Airshow held annually over the Severn River in the vicinity of the U.S. Academy, Annapolis, Maryland. The effect of these regulations will be to restrict general navigation in the regulated area for the safety of spectators and participants. These regulations are needed to provide for the safety of life, limb, and property on the navigable waters during the event.

DATES: Comments must be received on or before September 20, 1993.

ADDRESSES: Comments should be mailed or hand carried to Commander (bb), Fifth Coast Guard District, 431 Crawford Street, Portsmouth, Virginia 23704–5004. The comments will be available for inspection and copying at room 209 of this address. Normal office hours are between 8 a.m. and 4:30 p.m., Monday through Friday, except holidays.

FOR FURTHER INFORMATION CONTACT: Stephen L. Phillips, Chief, Boating Affairs Branch, Fifth Coast Guard District, 431 Crawford Street, Portsmouth, Virginia 23704–5004 (804) 398–6204.

SUPPLEMENTARY INFORMATION:

Request for Comments

Interested persons are invited to participate in this rulemaking by submitting written views, data, or arguments. Persons submitting

comments should include their names and addresses, identify this notice (CGD 05–93–053) and the specific section of the proposal to which their comments apply. Reasons should be given for each comment. The regulation may be changes in light of comments received. All comments received before the expiration of the comment period will be considered before final action is taken. No public hearing is planned, but one may be held if written requests for a hearing are received and it is determined that the opportunity to make oral presentations will aid the rulemaking process. The receipt of comments will be acknowledged if a stamped self-addressed postcard or envelope is enclosed.

Drafting Information

The drafters of this notice are QM2 Gregory C. Garrison, project officer, Boating Affairs Branch, Fifth Coast Guard District, and LT Monica L. Lombardi, project attorney, Fifth Coast Guard District Legal Staff.

Discussion of Proposed Regulation

Each year, the U.S. Naval Academy submits an application to hold a Blue Angels Airshow during the last half of May. This is a regular yearly event in which the Coast Guard is asked to provide control of spectator and commercial traffic within a certain area. In the past, Coast Guard patrol was provided during practice sessions and the actual performance, which consists of six high performance jet aircraft flying at a low altitudes in various formations over the Severn River. The Federal Aviation Administration regulations require closing the waterway to vessel traffic as a prerequisite for this event. In order to satisfy the FAA as well as provide for the safety of the boating public, the Coast Guard proposes to create a special local regulation to close a portion of the Severn River to vessel traffic each year during the airshow and practice sessions. Historically, commercial traffic has not been severely disrupted, and the Coast Guard does not anticipate any problems in the future.

Regulatory Evaluation

This proposed regulation is considered to be non-major under Executive Order 12291 and non-significant under Department of Transportation regulatory policies and procedures (44 FR 11034; February 26, 1979). The economic impact of this proposal is expected to be so minimal that a full regulatory evaluation is unnecessary. This regulation will only be in effect for five hours each day, for three days each year, and the impacts on routine navigation are expected to be minimal.

Small Entities

Under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*), the Coast Guard must consider whether this proposed rule will have a significant economic impact on a substantial number of small entities. "Small Entities" include independently owned and operated small businesses that are not dominant in their field and that otherwise qualify as "small business concerns" under section 3 of the Small Business Act (15 U.S.C. 632). Since the impact of this proposal on non-participating small entities is expected to be minimal, the Coast Guard will certify under 5 U.S.C. 605(b), that this proposal, if adopted, will not have a significant economic impact on a substantial number of small entities.

Collection of Information

This proposed rule contains no collection of Information requirements under the Paperwork Reduction Act (44 U.S.C. 3501 *et seq.*)

Federalism Assessment

This action has been analyzed in accordance with the principles and criteria contained in Executive Order 12612, and it is anticipated that this proposed rulemaking does not raise sufficient federalism implications to warrant the preparation of a Federalism Assessment.

Environmental Assessment

This proposed rulemaking is being thoroughly reviewed by the Cost Guard and it is anticipated that it will be determined to be categorically excluded from further environmental documentation in accordance with section 2.B.2.c of Commandant Instruction M16475.1B. A Categorical Exclusion Determination statement will be prepared and placed in the rulemaking docket, and will be available for inspection or copying where indicated under "ADDRESSES".

List of Subjects in 33 CFR Part 100

Marine safety, Navigation (water).

Proposed Regulations

In consideration of the foregoing, part 100 of title 33, Code of Federal Regulations is proposed to be amended as follows:

1. The authority citation for part 100 continues to read as follows:

Authority: 33 U.S.C. 1233; 49 CFR 1.46 and 33 CFR 100.35.

2. New section 100.518 is added to read as follows:

§ 100.518 Severn River, College Creek, and Weems Creek, Annapolis, Maryland.

(a) *Definitions:* (1) *Regulated area.* The waters of the Severn River bounded on the southeast by a line drawn from the quick flashing privately maintained light at the U.S. Naval Academy in position latitude 38°58'49.0" North, longitude 76°28'49.0" West, east to latitude 38°58'33.0" North, longitude 76°28'05.0" West, thence northeast to Carr Point, and bounded on the northwest by the U.S. Route 50/301 fixed highway bridge (New Severn River Bridge) centerpoint at latitude 39°00'23" North, longitude 76°30'15.0" West.

(2) *Coast Guard Patrol Commander.* The Coast Guard Patrol Commander is a commissioned, warrant, or petty officer who has been designated by the Commander, Group Baltimore.

(b) *Special local regulations.* (1) Except for persons or vessels authorized by the Coast Guard Patrol Commander, no person or vessel may enter or remain in the regulated area.

(2) The operator of any vessel in the immediate vicinity of this area shall:

(i) Stop the vessel immediately upon being directed to do so by any commissioned, warrant, or petty officer on board a vessel displaying a Coast Guard ensign.

(ii) Proceed as directed by any commissioned, warrant, or petty officer on board a vessel displaying a Coast Guard ensign.

(3) Any spectator vessel may anchor outside of the regulated area specified in paragraph (a)(1) of these regulations but may not block a navigable channel.

(c) *Effective period.* This section is effective during, and for one hour before any scheduled event starts. The Commander, Fifth Coast Guard District will publish a notice in the **Federal Register** and the Fifth Coast Guard District Local Notice to Mariners that announces the times and dates that this section is in effect.

Dated July 23, 1993.

W.T. Leland,

Rear Admiral, U.S. Coast Guard, Commander, Fifth Coast Guard District.

[FR Doc. 93–18551 Filed 8–3–93; 8:45 am]

BILLING CODE 4910-14-M

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 52

[WI31-01-5782; FRL-4667-6]

Clean Air Act Approval and Promulgation of Commitment To Adopt a Rule for Reasonably Available Control Technology for Oxides of Nitrogen for Wisconsin

AGENCY: United States Environmental Protection Agency (USEPA).

ACTION: Notice of proposed rulemaking.

SUMMARY: The USEPA proposes approval of revisions to the State Implementation Plan (SIP) for ozone submitted by the State of Wisconsin. This portion of the implementation plan was submitted by the State to satisfy Clean Air Act (CAA or Act) requirements for adoption of rules for application of reasonably available control technology (RACT) for oxides of nitrogen (NOx) in the Milwaukee, Kewaunee, Manitowoc, and Sheboygan ozone nonattainment areas in Wisconsin. Under the CAA, USEPA must approve or disapprove SIPs or portions of SIPs within time frames specified in the CAA; failure to do so would render USEPA liable to citizen suits to rulemake on those SIPs and would delay making approvable rules federally enforceable. In this notice, USEPA is proposing action, not on the rules themselves, but on a commitment by the State to submit the NO_x RACT rules at a later date.

DATES: Comments on this proposed action must be received in writing by September 3, 1993. Comments should be addressed to the contact indicated below.

ADDRESSES: Copies of the State's submittal and other information are available for inspection during normal business hours at the following address: U.S. Environmental Protection Agency, Region 5, Regulation Development Section, Air Toxics and Radiation Branch (AT-18J), 77 West Jackson Boulevard, Chicago, Illinois 60604-3590.

FOR FURTHER INFORMATION CONTACT: Daniel Meyer, U.S. Environmental Protection Agency (AT-18J), 77 W. Jackson Boulevard, Chicago, Illinois 60604-3590, (312) 886-9401.

SUPPLEMENTARY INFORMATION:

I. Background

The air quality planning requirements for the reduction of NO_x emissions through RACT are set out in section 182(f) of the CAA. Section 182(f) requirements are described by USEPA in a notice, "State Implementation Plans; Nitrogen Oxides Supplement to the General Preamble; Clean Air Act Amendments of 1990 Implementation of Title I; Proposed Rule," published November 25, 1992. 57 FR 55620 (hereinafter NO_x Supplement to the General Preamble). The November 25, 1992, notice, which contains general information on the NO_x provisions, is incorporated into this proposal by reference.

Section 182(f) of the CAA requires States within moderate or above ozone nonattainment areas or the ozone transport region to apply the same requirements to major stationary sources of NO_x ("major" as defined in section 302 and section 182(c), (d), and (e)) as are applied to major stationary sources of volatile organic compounds (VOCs). For more information on what constitutes a major source, see section 2 of the NO_x Supplement to the General Preamble. 57 FR 55622.

Section 182(b)(2)(C) requires submittal of RACT rules for major stationary sources of VOC emissions (not covered by a pre-enactment control technologies guidelines (CTG) document or a post-enactment CTG document) by November 15, 1992. There were no NO_x CTGs issued before enactment and USEPA has not issued a CTG document for any NO_x sources since enactment. States, in their RACT rules, are expected to require final installation of the actual NO_x controls by May 31, 1995, for those sources for which installation by that date is practicable. See 57 FR 55623.

Under Section 110(k)(4), the Administrator may approve a plan revision based on a commitment from the State to adopt specific enforceable measures by a specified date, but not later than 1 year after the date of USEPA approval of the plan revision that incorporated that commitment. See 57 FR 55622-55623. The memoranda of July 22, 1992, entitled "Guidelines for State Implementation Plan Submittals Due November 15, 1992," and September 16, 1992, entitled "Correction of State Implementation Plan Submittals Table," from Deputy Assistant Administrator Michael Shapiro also outline general requirements for conditional approval actions.

II. Today's Action; Analysis of State Submission

As noted above, section 110(k)(4) of the CAA allows USEPA to accept a commitment from States to adopt portions of SIPs rather than the SIP itself. For example, USEPA may, in certain cases, accept a commitment from States to adopt NO_x RACT rules rather than the NO_x RACT rule itself. The NO_x Supplement to the General Preamble, the memoranda of July 22, 1992, and September 16, 1992, from Deputy Assistant Administrator Michael Shapiro, and a February 2, 1993, memorandum entitled "Questions and Answers on Nitrogen Oxides Emissions Policy," from G.T. Helms outline approvability criteria for a NO_x RACT committal. Approvability criteria for this committal include:

1. A description of the reason for the committal SIP versus a full SIP submittal.
2. Documentation that credible photochemical grid modeling is not available or did not consider the effects of NO_x reductions.
3. Identification of resources to complete such modeling.
4. A schedule outlining the milestones that have been and will be achieved toward completion of NO_x RACT rules. The schedule must include a date for final submittal of rules to USEPA. The date for submitting the final rules to USEPA must be no later than 12 months after USEPA's final approval of the committal SIP.

USEPA is proposing to approve a commitment to adopt NO_x RACT rules for the Milwaukee, Kewaunee, Manitowoc, and Sheboygan areas in Wisconsin because it meets the requirements of section 110(k)(4) of the CAA and conforms to the policy in the NO_x Supplement to the General Preamble, the memoranda from Deputy Assistant Administrator Michael Shapiro of July 22, 1992, and September 16, 1992, and the February 2, 1993 memorandum from G.T. Helms. A detailed analysis of the submittal can be found in an April 28, 1993, Region 5 technical support document.

A. Procedural Background

The Act requires States to observe certain procedural requirements in developing implementation plans and plan revisions for submission to USEPA. Section 110(a)(2) of the Act provides that each implementation plan submitted by a State must be adopted after reasonable notice and public hearing.[1] Section 110(l) of the Act similarly provides that each revision to an implementation plan submitted by a State under the Act must be adopted by such State after reasonable notice and public hearing.

The State of Wisconsin held public hearings January 12-13, 1993, on their

[1] Also section 172(c)(7) of the Act requires that plan provisions for nonattainment areas meet the applicable provisions of Section 110(a)(2).

November 15, 1992, commitment to adopt NO_x RACT rules for the Milwaukee, Kewaunee, Manitowoc, and Sheboygan ozone nonattainment areas. Following the public hearings, the commitment was adopted by the State and signed by the Governor's Designee, Donald F. Theiler, Director of Air Management, Wisconsin Department of Natural Resources. This commitment was submitted to USEPA on January 15, 1993, as a proposed revision to their SIP. The January 15, 1993, submittal supplements the State of Wisconsin's prior November 15, 1992, submittal.

B. RACT Determination and Implementation

States—including those for which USEPA approves a commitment to adopt a NO_x RACT rule—are expected to require final installation of the actual NO_x controls by May 31, 1995, for sources for which installation by that date is practicable. The NO_x Supplement to the General Preamble, 57 FR 55623, discusses USEPA's interpretation of the RACT requirement.

By this notice, USEPA is proposing to approve the State's commitment to adopt NO_x RACT rules.

III. Implications of Today's Action

USEPA is proposing to approve Wisconsin's November 15, 1992, commitment for adoption of NO_x RACT rule(s) as a SIP revision submitted to USEPA for the Milwaukee, Kewaunee, Manitowoc, and Sheboygan ozone nonattainment areas in Wisconsin. Section 110(k)(4) of the Act provides that where USEPA takes final action to approve a commitment to submit a SIP or portion of a SIP, the State must fulfill that commitment (i.e., submit the required SIP or portion thereof) within 1 year following USEPA approval. If the State does not fulfill its commitment by submitting the SIP or revision to USEPA within that year, the Act requires that the SIP be disapproved. If USEPA disapproves the SIP for failing to meet the commitment, there are several additional consequences. As provided under section 179(a) of the Act, the State of Wisconsin would have up to 18 months after a final SIP disapproval to correct the deficiency[ies] that is[are] the subject of the disapproval before USEPA is required to impose one of the two sanctions set forth in section 179(b) of the Act: either highway sanctions or new source review offsets of 2 to 1. If the State has not corrected its deficiency[ies] within 6 months thereafter, USEPA must impose the second sanction. Any sanction USEPA imposes must remain in place until USEPA determines that the State has come into compliance. Note also that any final disapproval would trigger the requirement for USEPA to impose a Federal implementation plan as provided under section 110(c)(1) of the Act.

Nothing in this action should be construed as permitting, allowing or establishing a precedent for any future request for revision of any SIP. USEPA shall consider each request for revision of the SIP in light of specific technical, economic, and environmental factors and in relation to relevant statutory and regulatory requirements.

IV. Request For Public Comments

USEPA is requesting comments on all aspects of today's proposal.

V. Executive Order (EO) 12291

This action has been classified as a Table 2 action by the Regional Administrator under the procedures published in the **Federal Register** on January 19, 1989. 54 FR 2214–2225. On January 6, 1989, the Office of Management and Budget (OMB) waived Table 2 and 3 SIP revisions, 54 FR 2222, from the requirements of section 3 of Executive Order 12291 for a period of 2 years. USEPA has submitted a request for a permanent waiver for Table 2 and 3 SIP revisions. OMB has agreed to continue the temporary waiver until such time as it rules on USEPA's request.

VI. Regulatory Flexibility

Under the Regulatory Flexibility Act, 5 U.S.C. section 600 *et seq.*, USEPA must prepare a regulatory flexibility analysis assessing the impact of any proposed or final rule on small entities. 5 U.S.C. 603 and 604. Alternatively, USEPA may certify that the rule will not have a significant economic impact on a substantial number of small entities. Small entities include small businesses, small not-for-profit enterprises, and government entities with jurisdiction over populations of less than 50,000.

SIP approvals under section 110 and subchapter I, Part D, of the CAA do not create any new requirements, but simply approve requirements that the State is already imposing. Therefore, because the Federal SIP-approval does not impose any new requirements, I certify that it does not have a significant impact on affected small entities. Moreover, due to the nature of the Federal-State relationship under the CAA, preparation of a regulatory flexibility analysis would constitute Federal inquiry into the economic reasonableness of State action. The CAA forbids USEPA to base its actions concerning SIPs on such grounds. *Union Electric Co.* v. *U.S. E.P.A.*, 427 U.S. 246, 256–66 (1976); 42 U.S.C. 7410(a)(2).

List of Subjects in 40 CFR Part 52

Air pollution control, Hydrocarbons, Intergovernmental relations, Nitrogen dioxide, Ozone, Reporting and recordkeeping requirements, Volatile organic compounds.

Authority: 42 U.S.C. 7401–7671q.

Dated: June 2, 1993.

Valdas V. Adamkus,

Regional Administrator.

[FR Doc. 93–18571 Filed 8–3–93; 8:45 am]

BILLING CODE 6560-50-P

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40 CFR Part 180

[PP 1E4033/P565; FRL–4635–2]

RIN 2070–AC18

Pesticide Tolerance for Clopyralid

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: This document proposes that a tolerance be established for residues of the herbicide clopyralid in or on the raw agricultural commodity mint hay. The proposed regulation to establish a maximum permissible level for residues of the herbicide in or on the commodity was requested in a petition submitted by the Interregional Research Project No. 4 (IR-4).

DATES: Comments, identified by the document control number [PP 1E4033/P565], must be received on or before September 3, 1993.

ADDRESSES: By mail, submit written comments to: Public Response and Program Resources Branch, Field Operations Division (H7506C), Office of Pesticide Programs, Environmental Protection Agency, 401 M St., SW., Washington, DC 20460. In person, bring comments to: Rm. 1132, CM #2, 1921 Jefferson Davis Highway, Arlington, VA 22202.

Information submitted as a comment concerning this document may be claimed confidential by marking any part or all of that information as "Confidential Business Information" (CBI). Information so marked will not be disclosed except in accordance with procedures set forth in 40 CFR part 2. A copy of the comment that does not contain CBI must be submitted for inclusion in the public record. Information not marked confidential may be disclosed publicly by EPA without prior notice. All written comments will be available for public

inspection in Rm. 1132 at the address given above, from 8 a.m. to 4 p.m., Monday through Friday, excluding legal holidays.

FOR FURTHER INFORMATION CONTACT: By mail: Hoyt L. Jamerson, Emergency Response and Minor Use Section (H7505W), Registration Division, Environmental Protection Agency, 401 M St., SW., Washington, DC 20460. Office location and telephone number: Sixth Floor, Crystal Station #1, 2800 Jefferson Davis Hwy., Arlington, VA 22202, (703) 308-8783.

SUPPLEMENTARY INFORMATION: The Interregional Research Project No. 4 (IR-4), New Jersey Agricultural Experiment Station, P.O. Box 231, Rutgers University, New Brunswick, NJ 08903, has submitted pesticide petition (PP) 1E4033 to EPA on behalf of the Agricultural Experiment Stations of Idaho, Oregon, Washington, and Wisconsin. The petition requested that the Administrator, pursuant to section 408(e) of the Federal Food, Drug, and Cosmetic Act (21 U.S.C. 346a(e)) propose the establishment of a tolerance for residues of the herbicide clopyralid (3,6-dichloro-2-pyridinecarboxylic acid) in or on the raw agricultural commodity mint hay at 3.0 parts per million (ppm).

The data submitted in the petition and other relevant material have been evaluated. The toxicological data considered in support of the proposed tolerance include:

1. A 1-year feeding study in dogs fed diets containing 0, 100, 320, and 1,000 milligrams (mg)/kilogram (kg)/day with a no-observed-effect-level (NOEL) of 100 mg/kg/day. Increased liver weights and decreased erythrocyte counts and hemoglobin and hematocrit values were observed in dogs fed 320 mg/kg/day (lowest-effect level).

2. A developmental toxicity study in rats given gavage doses of 0, 15, 75, and 250 mg/kg with no developmental toxicity observed under the conditions of the study. The NOEL for maternal toxicity was established at 75 mg/kg based on decreased body weight, reduced food consumption, and the death of one test animal at the 250-mg/kg dose level (lowest-effect level).

3. A developmental toxicity study in rabbits given gavage doses of 110 and 250 mg/kg with no developmental toxicity observed under the conditions of the study.

4. A 2-year chronic feeding/carcinogenicity study in mice fed diets containing 0, 100, 500, and 2,000 mg/kg/day with a NOEL for systemic effects of 500 mg/kg. Decreased body weight was observed in male mice fed 2,000 mg/kg/day (lowest-effect level). No carcinogenic effects were observed under the conditions of the study.

5. A 2-year chronic feeding/carcinogenicity study in rats fed diets containing 0, 5, 15, 50, and 150 mg/kg/day with a NOEL for systemic effects of 50 mg/kg/day based on decreased body weight in females fed 150 mg/kg/day (lowest-effect level). No carcinogenic effects were observed under the conditions of the study.

6. A two-generation reproduction study in rats fed diets containing 0, 150, 500, and 1,500 mg/kg/day with no observed effect on reproductive performance. A systemic NOEL of 500 mg/kg/day was established for the study based on reduced terminal body weight in the F0 generation at 1,500 mg/kg/day.

7. Mutagenicity studies including dominant-lethal assay in rats, *in vivo* rat cytogenetic, *in vitro Salmonella* and *Saccharomyces* assays, *in vivo* mouse host-mediated assay, and an unscheduled DNA synthesis assay, which were all negative.

8. A metabolism study in rats indicates that clopyralid is readily absorbed after being ingested and that the majority of the radioactive dose is excreted within 24 hours of ingestion. Detectable levels of radioactivity were found in test animals 72 hours after ingestion.

The reference dose (RfD) for clopyralid is established at 0.5 mg/kg body weight(bwt)/day. The RfD is based on a NOEL of 50 mg/kg/bwt/day from the 2-year feeding study in rats and an uncertainty factor of 100. The theoretical maximum residue contribution from established tolerances utilizes 1.6 percent of the RfD for the overall U.S. population (3.5 percent of the RfD for the subgroup most highly exposed, children aged 1 to 6 years). Dietary exposure to residues of clopyralid in fresh mint and mint oil at 3.0 ppm would utilize less than 0.1 percent of the RfD for the U.S. population.

The nature of the residue in plants is adequately understood, and an adequate analytical method, gas chromatography, is available for enforcement purposes. An analytical method for enforcing this tolerance has been published in the Pesticide Analytical Manual (PAM), Vol. II. No secondary residues in meat, milk, poultry, or eggs are expected since the feeding of treated mint hay will be prohibited.

There are presently no actions pending against the continued registration of this chemical.

Based on the above information considered by the Agency the tolerance established by amending 40 CFR 180.431 would protect the public health. Therefore, it is proposed that the tolerance be established as set forth below.

Any person who has registered or submitted an application for registration of a pesticide, under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) as amended, which contains any of the ingredients listed herein, may request within 30 days after publication of this document in the **Federal Register** that this rulemaking proposal be referred to an Advisory Committee in accordance with section 408(e) of the Federal Food, Drug, and Cosmetic Act.

Interested persons are invited to submit written comments on the proposed regulation. Comments must bear a notation indicating the document control number, [PP 1E4033/P565]. All written comments filed in response to this petition will be available in the Public Response and Program Resources Branch, at the address given above from 8 a.m. to 4 p.m., Monday through Friday, except legal holidays.

The Office of Management and Budget has exempted this rule from the requirements of section 3 of Executive Order 12291.

Pursuant to the requirements of the Regulatory Flexibility Act (Pub. L. 96-354, 94 Stat. 1164, 5 U.S.C. 601-612), the Administrator has determined that regulations establishing new tolerances or raising tolerance levels or establishing exemptions from tolerance requirements do not have a significant economic impact on a substantial number of small entities. A certification statement to this effect was published in the **Federal Register** of May 4, 1981 (46 FR 24950).

List of Subjects in 40 CFR Part 180

Administrative practice and procedure, Agricultural commodities, Pesticides and pests, Reporting and recordkeeping requirements.

Dated: July 23, 1993.

Lawrence E. Culleen,

Acting Director, Registration Division, Office of Pesticide Programs.

Therefore, it is proposed that 40 CFR part 180 be amended as follows:

PART 180—[AMENDED]

1. The authority citation for part 180 continues to read as follows:

Authority: 21 U.S.C. 346a and 371.

2. By amending § 180.431(a) by adding and alphabetically inserting the following raw agricultural commodity, to read as follows:

§ 180.431 Clopyralid; tolerances for residues.

(a) * * *

Commodity	Parts per million
• • • • •	
Mint, hay	3.0
• • • • •	

* * * * *

[FR Doc. 93–18239 Filed 8–3–93; 8:45 am]

BILLING CODE 6560–50–F

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 226

RIN 0648–AF06

Designated Critical Habitat; Northern Right Whale

AGENCY: National Marine Fisheries Service (NMFS), NOAA, Commerce.

ACTION: Notice of a public hearing on a proposal to designate critical habitat for the northern right whale.

SUMMARY: On May 19, 1993, (58 FR 29186) NMFS proposed regulations to designate critical habitat for the northern right whale. The areas proposed for designation are portions of Cape Cod Bay, Stellwagen Bank and waters adjacent to the coasts of Georgia and Florida.

NMFS has scheduled an additional public hearing on the proposal in Boston, Massachusetts. Hearings in Georgia and Florida were announced on July 19, 1993 (see **DATES**). Anyone wishing to make a presentation at a public hearing should register upon arrival and be prepared to provide a written copy of their testimony at the time of presentation. Depending on the number of persons wishing to speak a time limit may be imposed.

DATES: A public hearing is scheduled for August 25, 1993, from 7:30 to 9:30 p.m., at the Ramada Inn, 225 McClellan Highway, East Boston, Massachusetts. The public hearing for Florida is scheduled for August 24, 1993, beginning at 2 p.m. until all comments have been heard, at the Canaveral Port Authority, 200 George King Boulevard, Port Canaveral, Florida. The public hearing for Georgia is scheduled for August 25, 1993 beginning at 7 p.m. until all comments have been heard, at the Georgia Department of Natural Resources, 1 Conservation Way, Brunswick, Georgia.

The comment period on this proposed action will remain open until August 31, 1993, to allow commenters the opportunity to respond to concerns voiced at the public hearings.

ADDRESSES: Send written comments to Dr. William W. Fox, Jr., Director, Office of Protected Resources, National Marine Fisheries Service, 1335 East-West Highway, suite 8238, Silver Spring, MD 20910.

FOR FURTHER INFORMATION CONTACT:

Robert C. Ziobro, Office of Protected Resources, National Marine Fisheries Service, 1335 East-West Highway, Silver Spring, MD 20910 (301/713–2322); or Thomas Bigford, Northeastern Region, National Marine Fisheries Service, One Blackburn Drive, Gloucester, MA 01930 (508–281–9209).

Dated: July 28, 1993.

William W. Fox, Jr.,

Director, Office of Protected Resources.

[FR Doc. 93–18532 Filed 8–3–93; 8:45 am]

BILLING CODE 3510–22–M

Notices

Federal Register
Vol. 58, No. 148
Wednesday, August 4, 1993

This section of the FEDERAL REGISTER contains documents other than rules or proposed rules that are applicable to the public. Notices of hearings and investigations, committee meetings, agency decisions and rulings, delegations of authority, filing of petitions and applications and agency statements of organization and functions are examples of documents appearing in this section.

DEPARTMENT OF AGRICULTURE

Forest Service

Revised Land and Resource Management Plan for the Kisatchie National Forest; Claiborne, Grant, Natchitoches, Rapides, Vernon, Webster, and Winn Parishes, Louisiana

AGENCY: Forest Service, USDA.

ACTION: Notice; intent to prepare an environmental impact statement.

SUMMARY: The Forest Service will prepare a draft and final environmental impact statement for a proposed action to revise the Kisatchie National Forest Land and Resource Management Plan Pursuant to 16 U.S.C. 1604(f)(5) and 36 CFR 219.12.

The agency invites written comments and suggestions within the scope of the analysis. In addition, the agency gives notice that a full environmental analysis and decision-making process will occur on the proposal so that interested and affected people are aware of how they may participate and contribute to the final decision.

In accordance with 40 CFR 1501.6, the Bureau of Land Management will be a cooperating agency.

DATES: Comments concerning the analysis should be received by October 1, 1993, to insure timely consideration.

ADDRESSES: Submit written comments and suggestions to: Danny W. Britt, Forest Supervisor, Kisatchie National Forest, P.O. Box 5500, Pineville, LA 71361.

FOR FURTHER INFORMATION CONTACT: Cynthia A. Dancak, Planning Staff Officer, (318) 473–7160.

SUPPLEMENTARY INFORMATION: The Record of Decision for the current Kisatchie National Forest Land and Resource Management Plan (Forest Plan) was approved on November 4, 1985. Three appeals were received. One was dismissed as untimely; the other two were consolidated into one administrative appeal.

The Chief affirmed the Regional Forester's decision to implement the Plan, but directed the Regional Forester to make the changes he had proposed in his Responsive Statement. On March 30, 1987, the first amendment to the Forest Plan was made. Since that time the Forest Plan has had 15 additional non-significant amendments.

In 1990, the Kisatchie National Forest completed and distributed the 5-Year Review Report of the Forest Plan. As stated in 36 CFR 219.10(g), the Forest Supervisor is required to review the conditions on the land covered by the plan—at least every five years—to determine whether conditions or demands of the public have changed significantly. Based on the findings of that review and report, the Regional Forester, on November 5, 1990, requested approval from the Chief of the Forest Service to revise the Kisatchie Forest Plan. On February 7, 1991, the Chief approved the Regional Forester's request.

The scope of the revision and decisions to be made include:

(1) Establishment of multiple-use goals and objectives (36 CFR 219.11(b);

(2) Establishment of forest-wide management requirements (standards and guidelines) to fulfill the requirements of 16 U.S.C. 1604, applying to future activities (resource integration requirements of 36 CFR 219.13 to 219.27);

(3) Establishment of management areas and management area direction (management area prescriptions), which will include development of desired future condition statements for the management areas (36 CFR 219.11(c)). The Forest is presently divided into 24 management areas;

(4) Determination of land that is suitable for timber production (16 U.S.C. 1604(k) and 36 CFR 219.14). Presently there are 491,822 acres of suitable land for timber production out of 601,887 total Forest acres;

(5) Establishment of allowable sale quantity (ASQ) for timber (36 CFR 219.16). The current average annual ASQ is 145.6 MMBF, however the average annual sold volume has been 124 MMBF since the plan was approved.

(6) Recommendations of roadless areas as potential wilderness (36 CFR 219.17). Presently there are 2 roadless areas (Saline Bayou and Cunningham Brake) identified as potential wilderness;

(7) Recommendations for Wild and Scenic River designations. Presently there are 6 rivers (Castor Creek, Drakes Creek, Kisatchie Bayou, Whiskey Chitto Creek, Sixmile Creek East Fork, Sixmile Creek West Fork) identified as eligible for designation; Eligibility studies are complete, and this EIS will consider these rivers and their individual segments for suitability as wild and scenic rivers.

(8) Determination of lands that will be available for gas and oil leasing, specific lands for which consent to lease will be permitted, and stipulations for areas where surface occupancy will be restricted or prohibited (36 CFR 228.102); and

(9) Establishment of monitoring and evaluation requirements (36 CFR 219.11(d) and 219.12(k)).

Preliminary issues have been identified as a result of the findings of the 5-year Review of the Forest Plan; a review of the appeal of the Forest Plan; and ongoing monitoring and evaluation of implementation of the Forest Plan. These preliminary issues include:

(1) Examine how coordination with other resource activities affect timber harvest levels on the forest, and how changes in allowable sale quantity (ASQ) affect local economies. This issue includes items such as coordination with the Red-cockaded Woodpecker (RCW), streamside management zones (SMZ's), Southern Pine Beetle (SPB) infestations, the Louisiana pearlshell mussel; as well as what lands should not be designated as suitable for timber production;

(2) Determine what forest management policies, programs and practices should be implemented to maintain or improve biological diversity. Some facets of this issue include conservation and management of unique areas such as seepage bogs and glades, Louisiana Natural Areas Registry sites, Research Natural Areas (RNA's); as well as pinestraw raking, old growth, and the restoration of Longleaf pine and other naturally occurring forested landscapes and natural communities of central Louisiana;

(3) Analyze different options for implementation of the Regional Direction for the management of the

Red-cockaded Woodpecker and its habitat as will be described in a future decision by the Regional Forester;

(4) Analyze how much and what kind of outdoor recreation should be provided, and where it should occur. Facets to this issue include direction for the management of Off Road Vehicles (ORV's), and analysis to identify recreation development needs for recreation opportunities such as interpretive facilities; hiking, horseback, mountain bike, and all terrain vehicle (ATV) trails; public shooting ranges, etc.;

(5) Determine what silvicultural practices should be implemented to best achieve resource management goals while addressing public concerns. This issue will address the incorporation of ecosystem management and landscape ecology principles, analysis of even-aged and uneven-aged silvicultural systems, the appropriate mix of rotation ages and harvest cutting methods for various forest cover types, thinning and stocking guidelines, and site preparation and release methods;

(6) Analyze how much and what kinds of wildlife and fish habitats should the forest provide, for a diverse wildlife program. This issue will address management direction for the two National Wildlife Management Preserves, hunting and fishing opportunities throughout the forest, and management emphasis for neotropical migratory birds and other non-game wildlife species;

(7) And analyze other issues, including appropriate uses of national forest system lands, the range management program, riparian area management, forest access, and prescribed burning.

The Forest Service will consider public comments received on this Notice and from our other public participation efforts to develop other issues as needed.

In preparing the environmental impact statement, the Forest Service will develop, as a minimum, the following range of alternatives:

(1) A current direction (no action) alternative that reflects existing levels of outputs. It also estimates expected levels that would be possible if current allocations, direction, policies, and practices were to continue;

(2) An alternative that responds to the most recent RPA Program;

(3) Other alternatives necessary to respond to the full range of public issues, management concerns, and resource use and development opportunities, including Wild and Scenic River and Wilderness recommendations.

Public participation will be especially important at several points during the project analysis process. The first point in the analysis is the scoping process (40 CFR 1501.7). The scoping process includes:

(1) Identifying potential issues (other than those previously described),

(2) From these, identifying significant issues to be analyzed in depth,

(3) Eliminating from detailed study insignificant issues or those which have been covered by prior environmental review,

(4) Exploring additional alternatives, and

(5) Identifying potential environmental effects of the proposed action and alternatives (i.e., direct, indirect, and cumulative effects).

The Forest Service is seeking information, comments, and assistance from Federal, State and local agencies, and other individuals or organizations who may be interested in or affected by the proposed action. This input will be utilized in the preparation of the draft environmental impact statement. Public participation will be solicited by notifying in person and/or by mail known interested and affected publics and key contacts, through news releases used to give the public general notice, and through a series of open houses. Each open house will begin at 4 pm and conclude at 7 pm and are scheduled for the following dates and locations:

- Caney Ranger District—Wednesday, September 22, 1993. Two concurrent sessions: Minden Chamber of Commerce Building, Minden, LA; and Caney Ranger District office, 324 Beardsley, Homer, LA.
- Catahoula Ranger District—Thursday, September 16, 1993. Catahoula Work Center, Bentley, LA.
- Evangeline Ranger District—Wednesday, September 15, 1993. Evangeline Work Center, Hwy. 488 (Twin Bridges Road), Gardner, LA.
- Kisatchie Ranger District—Friday, September 24, 1993. Kisatchie Ranger District office, Hwy. 6 West (west of I–49), Natchitoches, LA.
- Vernon Ranger District—Tuesday, September 21, 1993. Vernon Ranger District office, 3362 Lake Charles Hwy., Leesville, LA.
- Winn Ranger District—Friday, September 17, 1993. Winn Work Center, Hwy. 84 West, Winnfield, LA.

The draft environmental impact statement is expected to be filed with the Environmental Protection Agency and to be available for public review by March 1994. At that time, the Environmental Protection Agency will publish a notice of availability of the draft environmental impact statement in the **Federal Register**.

The comment period on the draft environmental impact statement will be 90 days from the date the Environmental Protection Agency publishes the notice of availability in the **Federal Register**.

The Forest Service believes, at this early state, it is important to give reviewers notice of several court rulings related to public participation in the environmental review process. First, reviewers of draft environmental impact statements must structure their participation in the environmental review of the proposal so that it is meaningful and alerts an agency to the reviewers position and contentions. Vermont Yankee Nuclear Power Corp. v. NRDC, 435 U.S. 519,553 (1978). Also, environmental objections that could be raised at the draft environmental impact statement stage, but that are not raised until after completion of the final environmental impact statement may be waived or dismissed by the courts. City of Angoon v. Hodel, 803 F.2d 1016, 1022 (9th Cir.1986) and Wisconsin Heritages, Inc. v. Harris, 490 F. Supp. 1334, 1338 (E.D. Wis. 1980). Because of these court rulings, it is very important that those interested in this proposed action participate by the close of the 90-day comment period so that substantive comments and objections are made available to the Forest Service at a time when it can meaningfully consider them and respond to them in the final environmental impact statement.

To assist the Forest Service in identifying and considering issues and concerns on the proposed action, comments on the draft environmental impact statement should be as specific as possible. It is also helpful if comments refer to specific pages or chapters of the draft statement. Comments may also address the adequacy of the draft environmental impact statement or the merits of the alternatives formulated and discussed in the statement. Reviewers may wish to refer to the Council on Environmental Quality Regulation for implementing the procedural provisions of the National Environmental Policy Act at 40 CFR 1503.3 in addressing these points.

After the comment period ends on the draft environmental impact statement, the comments will be analyzed, considered, and responded to by the Forest Service in preparing the final environmental impact statement. The final environmental impact statement is scheduled to be completed by September 1994. The responsible official will consider the comments, responses, environmental consequences

discussed in the final environmental impact statement, and applicable laws, regulations, and policies in making a decision regarding this revision. The responsible official will document the decision and reasons for the decision in the Record of Decision. The decision will be subject to appeal in accordance with 36 CFR part 217.

The responsible official is the Regional Forester, Southern Region, 1720 Peachtree Road, NW., Atlanta, Georgia 30367.

Dated: July 28, 1993.

John L. Rich,

Acting Regional Forester.

[FR Doc. 93–18536 Filed 8–3–93; 8:45 am]

BILLING CODE 3410–11–M

Forms Under Review by Office of Management and Budget

The Department of Agriculture has submitted to OMB for review the following proposal for the collection of information under the provisions of the Paperwork Reduction Act (44 U.S.C. chapter 35) since the last list was published. This list is grouped into new proposals, revisions, extension, or reinstatements. Each entry contains the following information:

(1) Agency proposing the information collection; (2) Title of the information collection; (3) Form number(s), if applicable; (4) How often the information is requested; (5) Who will be required or asked to report; (6) An estimate of the number of responses; (7) An estimate of the total number of hours needed to provide the information; (8) Name and telephone number of the agency contact person.

Questions about the items in the listing should be directed to the agency person named at the end of each entry. Copies of the proposed forms and supporting documents may be obtained from: Department Clearance Officer, USDA, OIRM, Room 404–W Admin. Bldg., Washington, DC 20250, (202) 690–2118.

New Collection

- National Agricultural Statistics Service

Farmer Information Survey

One-Time Survey

Farms; 5,400 responses; 900 hours

Larry Gambrell (202) 720–5778

Donald E. Hulcher,

Deputy Department Clearance Officer.

[FR Doc. 93–18513 Filed 8–3–93; 8:45 am]

BILLING CODE 3410–01–M

Forest Service

Exempt Decision for East End Salvage Sales and Restoration Projects From Appeal, Umatilla National Forest, OR

AGENCY: Forest Service, USDA.

ACTION: Noticer to exempt decision from administrative appeal.

SUMMARY: This is a notification that the Record of Decision for the final environmental impact statement (EIS) for the East End Salvage Sales and Restoration Projects in the eastern third of the Heppner Ranger District on the Umatilla National Forest (Oregon) is exempted from appeal. This is in conformance with provisions of 36 CFR Part 217.4 (a)(11) as published in the **Federal Register** on January 23, 1989 (54 FR 3342).

EFFECTIVE DATE: September 3, 1993.

FOR FURTHER INFORMATION CONTACT: Heppner Ranger District, David Kendrick, Project Leader, P.O. Box 7, Heppner, Oregon 97836, Phone (503) 676–9187.

SUPPLEMENTARY INFORMATION: For the past 11 years, an infestation of western spruce budworm have been affecting major portions of the Heppner Ranger District of the Umatilla National Forest. This defoliation has resulted in a loss of live timber and vegetative cover and a reduction in the overall quality of wildlife habitat, fish habitat, and water quality. Fuel loadings have also increased due to tree mortality, which has also created a hazardous situation that could result in moderate to high intensity wildfires. In 1989, the Zone Entomologist identified that considerable mortality was resulting in some fir stands, either directly attributed to the budwork or to secondary agents such as bark beetles. A district interdisciplinary team (IDT) surveyed the East End Analysis Area to assess what could be salvaged, and the effects of that on wildlife habitat, riparian and instream habitat, water quality, fuel loading.

The Forest Supervisor identified the need to salvage the dead or dying trees in as short a time as possible so the logs would remain merchantable. He also identified the desirability to complete the salvage quickly so that establishment of new forest stands and other restoration projects could take place promptly.

Public scoping for East End analysis began in June of 1992, with individuals, groups, state and federal agencies, the Yakima Indian Nation, and the Confederated Tribes of the Umatilla and Warm Springs Indian Reservations. The analysis of the proposed action continued throughout the year. It was determined that an EIS was required to better evaluate the cumulative effects of timer harvest over such a large area.

The IDT developed six alternatives to analyze, including the No Action Alternative and an alternative which contains only restoration projects (no harvest would occur). The effects of these alternatives were analyzed and documented in a draft EIS for the East End Salvage Sales and Restoration Projects. The draft EIS was released to the public on October 9, 1993. The Preferred Alternative (Alternative B) would harvest about 2,195 acres of heavily infested land. This alternative would produce approximately 25.3 million board feet of timber. Only dead or dying trees will be harvested. No permanent road construction would be required. Approximately 16.6 miles of existing system road would be reconstructed and 17 miles of temporary logging roads would be constructed and obliterated after harvest. Inventoried old growth would not be entered and 9,355 acres of security areas would be left to provide for elk hiding cover as mitigation for harvest. In some areas along the Blue Mountain Scenic Byway, timer harvest would occur to improve visual quality. Over 30 additional restoration projects are included as part of the preferred alternative. These projects will be implemented to improve riparian and instream habitat, water quality, forage, wildlife habitat, and reduce soil compaction and fuel loads.

The proposed action is not consistent with the Umatilla Land and Resource Management Plan Standards and Guidelines for elk habitat effectiveness and big game cover in Management Area E2 (Timber and Big Game and (Management Area C4) Wildlife Habitat. This is due to the large scale of western spruce budwork defoliation and would be inconsistent even if no entry occurred. The Forest Supervisor has decided to issue a site-specific, nonsignificant Forest Plan amendment for the East End Salvage Sales and Restoration Projects which will not alter the "desired future condition" in these management areas. In addition, the Forest Plan will be amended to change a one mile wide portion of management Area A1 (Semi-Primitive Nonmotorized Recreation) on either side of the Blue Mountain Scenic Byway to Management Area A4 (Viewshed 2) to facilitate visual management along this heavily travelled road.

A Biological Assessment was submitted to the U.S. Fish and Wildlife Service (USFWS) for the North American Bald Eagle and the Peregrine

Falcon, two federally listed threatened and endangered animals within the analysis area. USFWS concurred with a finding of "not likely to adversely affect" these species provided the recommendations contained within the Assessment are implemented. Biological Evaluations were also completed for all plant, wildlife, and fish Proposed, Endangered, Threatened, and Sensitive (PETS) species within the analysis area. There will be no direct effect on any PETS species or their critical habitat. There may be cumulative impacts on individual wolverines, but would not likely caused an uplisting of this species. Cultural resource surveys indicate that these projects will have no effect on native American religious sites, archaeological sites, or historic properties or areas.

These sales and accompanying work is designed to accomplish the objectives as quickly as possible and minimize salvage volume loss and resource damage. These salvage projects are crucial to forest rehabilitation and recovery in the East End Analysis Area and meeting Desired Future Conditions. The severity of damage to stands requires immediate action to initiate stand recovery, riparian recovery, streambank stabilization, re-establish vegetation, and reduce sediment and erosion. Based upon the draft EIS and subsequent final analyses for the East End Salvage Sales and Restoration Projects, I have determined that good cause exists to exempt the East End Salvage Sales and Restoration Projects form administrative appeal (36 CFR part 217). Under this regulation, the following are exempt from appeal:

Decisions related to rehabilitation of National Forest System lands and recovery of forest resources resulting form natural disasters or other natural phenomena, such as wildfires * * * when the Regional Forester * * * determines and gives notice in the **Federal Register** that good cause exists to exempt such decisions from review under this part.

After publication of this notice in the **Federal Register** and at least 30 days after the Notice of Availability of the final EIS appears in the **Federal Register**, the Record of Decision for the East End Salvage Sales and Restoration Projects may be signed by the Forest Supervisor. Therefore, the East End Salvage Sales and Restoration Projects will not be subject to review under 36 CFR part 217.

Dated: July 28, 1993

Neel Larsen,

Acting Regional Forester.

[FR Doc. 93–18537 Filed 8–3–93; 8:45 am]

BILLING CODE 3410–11–M

Grand Island Advisory Commission Meeting

AGENCY: Forest Service, USDA.

ACTION: Grand Island Advisory Commission Meeting.

SUMMARY: The Grand Island Advisory Commission will meet on August 24, 1993 at 8 a.m. at the Comfort Inn on M–28 East in Munising, Michigan. An agenda for the one day meeting will consist of an update on the Draft Environmental Impact Statement from the Planning Team, a discussion by Dr. Cantrill on concensus building and a discussion of the feasibility study by the feasibility committee.

Interested members of the public are encouraged to attend.

FOR FURTHER INFORMATION CONTACT: Direct questions about this meeting to Dennis Jones, Public Service Team Leader, Hiawatha National Forest, 2727 N. Lincoln Road, Escanaba, MI 49829, (906) 786–4062.

Dated: July 29, 1993.

William F. Spinner,

Forest Supervisor.

[FR Doc. 93–18598 Filed 8–3–93; 8:45 am]

BILLING CODE 3410–11–M

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

Marine Mammals; Permits

AGENCY: National Marine Fisheries Service (NMFS), NOAA, Commerce.

ACTION: Issuance of scientific research permit No. 873.

SUMMARY: On June 23, 1993, notice was published in the **Federal Register** (58 FR 34038) that a request for a scientific research permit to take marine mammals had been submitted by the National Marine Fisheries Service, Southwest Fisheries Science Center, P.O. Box 271, La Jolla, CA 92038, to incidentally harass (through vessel approach, helicopter photogrammetry and photographic identification) and collect tissue biopsy samples from several marine mammal species during vessel surveys in the eastern Pacific Ocean. These surveys, which will be conducted off the coasts of Washington, Oregon, California and Mexico during 1993–95, will be used to assess the status of cetaceans and to address issues associated with defining population structures.

ADDRESSES: The permit and related documents are available for review upon written request or by appointment in the following offices:

Permits Division, Office of Protected Resources, NMFS, 1335 East-West Highway, room 7324, Silver Spring, MD 20910 (301/713–2289); and

Director, Southwest Region, NMFS, NOAA, 501 West Ocean Boulevard, suite 4200, Long Beach, CA 90802–4213 (310/980–4016).

SUPPLEMENTARY INFORMATION: Notice is hereby given that on July 28, 1993, as authorized by the Marine Mammal Protection Act of 1972, as amended (16 U.S.C. 1361 *et seq.*), the Regulations Governing the Taking and Importing of Marine Mammals (50 CFR part 216), the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*), and the regulations governing the taking, importing, and exporting of endangered fish and wildlife (50 CFR part 222), NMFS issued the requested permit for the above activities subject to special conditions set forth therein.

Dated: July 28, 1993.

William W. Fox, Jr.,

Director, Office of Protected Resources, National Marine Fisheries Service.

[FR Doc. 93–18533 Filed 8–3–93; 8:45 am]

BILLING CODE 3510–22–M

DEPARTMENT OF DEFENSE

Office of the Secretary

Department of Defense Wage Committee; Closed Meetings

Pursuant to the provisions of section 10 of Public Law 92–463, the Federal Advisory Committee Act, notice is hereby given that a meeting of the Department of Defense Wage Committee will be held on Tuesday, September 7, 1993; Tuesday, September 14, 1993; Tuesday, September 21, 1993; and Tuesday, September 28, 1993, at 2 p.m. in room 800, Hoffman Building #1, Alexandria, Virginia.

The Committee's primary responsibility is to consider and submit recommendations to the Assistant Secretary of Defense (Force Management and Personnel) concerning all matters involved in the development and authorization of wage schedules for federal prevailing rate employees pursuant to Public Law 92–392. At this meeting, the Committee will consider wage survey specifications, wage survey

data, local wage survey committee reports and recommendations, and wage schedules derived therefrom.

Under the provisions of section 10(d) of Public Law 92–463, meetings may be closed to the public when they are "concerned with matters listed in 5 U.S.C. 552b." Two of the matters so listed are those "related solely to the internal personnel rules and practices of an agency," (5 U.S.C. 552b. (c)(2)), and those involving "trade secrets and commercial or financial information obtained from a person and privileged or confidential" (5 U.S.C. 552b. (c)(4)).

Accordingly, the Deputy Assistant Secretary of Defense (Civilian Personnel Policy/Equal Opportunity) hereby determines that all portions of the meeting will be closed to the public because the matters considered are related to the internal rules and practices of the Department of Defense (5 U.S.C. 552b. (c)(2)), and the detailed wage data considered were obtained from officials of private establishments with a guarantee that the data will be held in confidence (5 U.S.C. 552b(c)(4)).

However, members of the public who may wish to do so are invited to submit material in writing to the chairman concerning matters believed to be deserving of the Committee's attention.

Additional information concerning this meeting may be obtained by writing the Chairman, Department of Defense Wage Committee, room 3D264, The Pentagon, Washington, DC 20310.

Dated: July 30, 1993.

L.M. Bynum,

OSD Federal Register Liaison Officer, Department of Defense.

[FR Doc. 93–18553 Filed 8–3–93; 8:45 am]

BILLING CODE 5000-04-M

DEPARTMENT OF ENERGY

Federal Energy Regulatory Commission

[Docket No. QF93–135–000]

Georgia-Pacific Corp.; Application for Commission Certification of Qualifying Status of a Small Power Production Facility

July 29, 1993.

On July 22, 1993, Georgia-Pacific Corporation of 133 Peachtree Street, NE., Atlanta, Georgia 30303, submitted for filing an application for certification of a facility as a qualifying small power production facility pursuant to Section 292.207(b) of the Commission's Regulations. No determination has been made that the submittal constitutes a complete filing.

According to the applicant, the 52 MW small power production facility is located at State Road 216, Palatka, Florida. The facility consists of the #4 recovery boiler and the #4 combination boiler, and four steam turbine generators. The primary energy source of the recovery boiler is biomass in the form of black liquor, and the primary energy source of the combination boiler is biomass in the form of tree bark. Installation of the #4 recovery boiler was completed in 1976, and the #4 combination boiler was completed in 1965.

Any person desiring to be heard or objecting to the granting of qualifying status should file a motion to intervene or protest with the Federal Energy Regulatory Commission, 825 North Capitol Street, NE., Washington, DC 20426, in accordance with Rules 211 and 214 of the Commission's Rules of Practice and Procedure. All such motions or protests must be filed within 30 days after the date of publication of this notice in the **Federal Register** and must be served on the applicant. Protests will be considered by the Commission in determining the appropriate action to be taken but will not serve to make protestants parties to this proceeding. Any person wishing to become a party must file a petition to intervene. Copies of this filing are on file with the Commission and are available for public inspection.

Lois D. Cashell,

Secretary.

[FR Doc. 93–18526 Filed 8–3–93; 8:45 am]

BILLING CODE 6717-01-M

[Docket No. QF93–136–000]

Application for Commission Certification of Qualifying Status of a Small Power Production Facility

July 29, 1993.

On July 22, 1993, Georgia-Pacific Corporation of 133 Peachtree Street, NE., Atlanta, Georgia 30303, submitted for filing an application for certification of a facility as a qualifying small power production facility pursuant to § 292.207(b) of the Commission's Regulations. No determination has been made that the submittal constitutes a complete filing.

According to the applicant, the 33 MW small power production facility is located at West Ninth Street, Brunswick, Georgia. The facility consists of the #5 and #6 recovery boilers, and two associated steam turbine generators. The primary energy source of the facility is biomass in the form of black liquor. Installation of the #5 and #6 recovery boilers was completed in 1971 and 1990, respectively.

Any person desiring to be heard or objecting to the granting of qualifying status should file a motion to intervene or protest with the Federal Energy Regulatory Commission, 825 North Capitol Street, NE., Washington, DC. 20426, in accordance with Rules 211 and 214 of the Commission's Rules of Practice and Procedure. All such motions or protests must be filed within 30 days after the date of publication of this notice in the **Federal Register** and must be served on the applicant. Protests will be considered by the Commission in determining the appropriate action to be taken but will not serve to make protestants parties to this proceeding. Any person wishing to become a party must file a petition to intervene. Copies of this filing are on file with the Commission and are available for public inspection.

Lois D. Cashell,

Secretary.

[FR Doc. 93–18527 Filed 8–3–93; 8:45 am]

BILLING CODE 6717-01-M

[Docket No. QF93–137–000]

Georgia-Pacific Corp.; Application for Commission Certification of Qualifying Status of a Small Power Production Facility

July 29, 1993.

On July 22, 1993, Georgia-Pacific Corporation of 133 Peachtree Street, NE., Atlanta, Georgia 30303, submitted for filing an application for certification of a facility as a qualifying small power production facility pursuant to § 292.207(b) of the Commission's Regulations. No determination has been made that the submittal constitutes a complete filing.

According to the applicant, the 34 MW small power production facility is located at Paper Mill Road, Crossett, Arkansas. The facility consists of one recovery boiler, and the #6 steam turbine generator. The primary energy source of the facility is biomass in the form of black liquor. Installation of the recovery boiler was completed in 1987.

Any person desiring to be heard or objecting to the granting of qualifying status should file a motion to intervene or protest with the Federal Energy Regulatory Commission, 825 North Capitol Street, NE., Washington, DC 20426, in accordance with Rules 211 and 214 of the Commission's Rules of Practice and Procedure. All such motions or protests must be filed within 30 days after the date of publication of this notice in the **Federal Register** and

must be served on the applicant. Protests will be considered by the Commission in determining the appropriate action to be taken but will not serve to make protestants parties to this proceeding. Any person wishing to become a party must file a petition to intervene. Copies of this filing are on file with the Commission and are available for public inspection.

Lois D. Cashell,

Secretary.

[FR Doc. 93–18528 Filed 8–3–93; 8:45 am]

BILLING CODE 6717–01–M

[Docket No. ER93–782–000]

Allegheny Power Service Co.; Filing

July 29, 1993.

Take notice that on July 9, 1993, Allegheny Power Service Company (Allegheny) tendered for filing a Notice of Cancellation of Monongahela Power Company Rate Schedule FERC No. 37, the Potomac Edison Company Rate Schedule FERC No. 42 and West Penn Power Company Rate Schedule FERC No. 37.

Any person desiring to be heard or to protest said filing should file a motion to intervene or protest with the Federal Energy Regulatory Commission, 825 North Capitol Street, NE., Washington, DC 20426, in accordance with Rules 211 and 214 of the Commission's Rules of Practice and Procedure (18 CFR 385.211 and 18 CFR 385.214). All such motions or protests should be filed on or before August 12, 1993. Protests will be considered by the Commission in determining the appropriate action to be taken, but will not serve to make protestants parties to the proceeding. Any person wishing to become a party must file a motion to intervene. Copies of this filing are on file with the Commission and are available for public inspection.

Lois D. Cashell,

Secretary.

[FR Doc. 93–18515 Filed 8–3–93; 8:45 am]

BILLING CODE 6717–01–M

[Docket No. ER93–545–000]

Connecticut Light & Power Co.; Filing

July 29, 1993.

Take notice that on July 20, 1993, Connecticut Light & Power Company (CL&P) tendered for filing an amendment to its original filing of April 6, 1993 in this docket.

Any person desiring to be heard or to protest said filing should file a motion to intervene or protest with the Federal Energy Regulatory Commission, 825 North Capitol Street, NE., Washington, DC 20426, in accordance with Rules 211 and 214 of the Commission's Rules of Practice and Procedure (18 CFR 385.211 and 18 CFR 385.214). All such motions or protests should be filed on or before August 12, 1993. Protests will be considered by the Commission in determining the appropriate action to be taken, but will not serve to make protestants parties to the proceeding. Any person wishing to become a party must file a motion to intervene. Copies of this filing are on file with the Commission and are available for public inspection.

Lois D. Cashell,

Secretary.

[FR Doc. 93–18516 Filed 8–3–93; 8:45 am]

BILLING CODE 6717–01–M

[Docket No. ER93–788–000]

Hardee Power Partners Limited; Filing

July 29, 1993.

Take notice that on July 6, 1993, Hardee Power Partners Limited (Hardee Power) tendered for filing its adjustments to the monthly capacity charges payable to Seminole Electric Cooperative, Inc. and Tampa Electric Company to Hardee Power.

Any person desiring to be heard or to protest said filing should file a motion to intervene or protest with the Federal Energy Regulatory Commission, 825 North Capitol Street, NE., Washington, DC 20426, in accordance with Rules 211 and 214 of the Commission's Rules of Practice and Procedure (18 CFR 385.211 and 18 CFR 385.214). All such motions or protests should be filed on or before August 11,1993. Protests will be considered by the Commission in determining the appropriate action to be taken, but will not serve to make protestants parties to the proceeding. Any person wishing to become a party must file a motion to intervene. Copies of this filing are on file with the Commission and are available for public inspection.

Lois D. Cashell,

Secretary.

[FR Doc. 93–18517 Filed 8–3–93; 8:45 am]

BILLING CODE 6717–01–M

[Docket No. CP93–550–000]

Michigan Gas Storage Co.; Application

July 29, 1993.

Take notice that on July 14, 1993, Michigan Gas Storage Company (Applicant) 212 West Michigan Avenue, Jackson, Mississippi 49201, filed in Docket No. CP93–550–000 an application pursuant to sections 7(c) and 7(b) of the Natural Gas Act to construct and operate about 4,600 feet of pipeline and permission and approval to abandon about 3,200 feet of pipeline, all as more fully set forth in the application on file with the Commission and open to public inspection.

Applicant requests authorization to construct and operate approximately 4,600 feet of 36-inch pipe which would replace approximately 3,200 feet of 22-inch pipe and a combination of 20-inch/16-inch pipe in Isabella County, Michigan. It is stated that the portions of pipeline being replaced would be abandoned in place as the proposed 36-inch line would be routed on a new right-of-way. There would be no increase in the certificated capacity.

Applicant states that Line 100 segment consists of parallel 22-inch, 26-inch and 20-inch/16-inch lines which are used to move volumes to and from storage fields behind the Muskegon River Compressor Station and to transport gas for Consumers Power Company and other transporters from Northern Michigan production areas to delivery points in Central and Southern Michigan. Applicant also states that due to changes in location class under DOT and Michigan Public Service Commission safety rules, the portions of Line 100 segment to be replaced are not allowed to be operated at their originally certificated MAOP. These pressure restrictions limit the amount of gas which can be transported during normal winter operating conditions as well as during peak operating conditions. Applicant avers that with normal operating conditions during the withdrawal season, the pressure restriction on the 20-inch/16-inch segment causes it to be shut-in most of the winter; during peak operating conditions, the 22-inch segment would be shut-in as well. The shut-in of both segments would cause a capacity reduction of about 180 MMcf/d at maximum operating conditions. Applicant states that the 22-inch segment is expected to be shut in more often once the 16-inch piping from the Muskegon River Compressor Station to the Herrick Road Valve Site is replaced with 36-inch pipe, as authorized in Docket No. CP93–11–000. Applicant further states that the proposed 36" segment would provide the equivalent capacity of the 22" and 20-inch/16-inch segments it replaces.

Any person desiring to be heard or to make any protest with reference to said application should on or before August 19, 1993, file with the Federal Energy Regulatory Commission, Washington, DC 20426, a motion to intervene or a

protest in accordance with the requirements of the Commission's Rules of Practice and Procedure (18 CFR 385.214 or 385.211) and the Regulations under the Natural Gas Act (18 CFR 157.10). All protests filed with the Commission will be considered by it in determining the appropriate action to be taken but will not serve to make the protestants parties to the proceeding. Any person wishing to become a party to a proceeding or to participate as a party in any hearing therein must file a motion to intervene in accordance with the Commission's Rules.

Take further notice that, pursuant to the authority contained in and subject to the jurisdiction conferred upon the Federal Energy Regulatory Commission by sections 7 and 15 of the Natural Gas Act and the Commission's Rules of Practice and Procedure, a hearing will be held without further notice before the Commission or its designee on this application if no motion to intervene is filed within the time required herein, if the Commission on its own review of the matter finds that a grant of a certificate and permission and approval for the proposed abandonment are required by the public convenience and necessity. If a motion for leave to intervene is timely filed, or if the Commission on its own motion believes that a formal hearing is required, further notice of such hearing will be duly given.

Under the procedure herein provided for, unless otherwise advised, it will be unnecessary for Applicant to appear or be represented at the hearing.

Lois D. Cashell,

Secretary.

[FR Doc. 93–18523 Filed 8–3–93; 8:45 am]

BILLING CODE 6717–01–M

[Docket No. CP93–577–000]

Natural Gas Pipeline Company of America; Application

July 29, 1993.

Take notice that on July 21, 1993, Natural Gas Pipeline Company of America (Natural), 701 East 22nd Street, Lombard, Illinois 60148, filed in Docket No. CP93–577–000 an application pursuant to section 7(b) of the Natural Gas Act for permission and approval to abandon a firm transportation service for Southern Natural Gas Company (Southern), effective February 1, 1993, all as more fully set forth in the application which is on file with the Commission and open to public inspection.

Natural states that it was authorized by Commission order issued January 31, 1983, in Docket No. CP82–156–000 to transport up to 3,900 Mcf of natural gas per day for Southern from the West Cameron area of offshore Louisiana. Natural further states that it transported the natural gas through its capacity in the U-T Offshore System and delivered the gas to ANR Pipeline Company for delivery to Southern. Natural provided this transportation service pursuant to its Rate Schedule X–132, it is stated.

Natural asserts that Southern, by letter dated June 26, 1992, requested that the transportation service provided under Natural's Rate Schedule X–132 be terminated effective February 1, 1993.

Any person desiring to be heard or to make any protest with reference to said application should on or before August 19, 1993, file with the Federal Energy Regulatory Commission, Washington, DC 20426, a motion to intervene or a protest in accordance with the requirements of the Commission's Rules of Practice and Procedure (18 CFR 385.211) and the Regulations under the Natural Gas Act (18 CFR 157.10). All protests filed with the Commission will be considered by it in determining the appropriate action to be taken but will not serve to make the protestants parties to the proceeding. Any person wishing to become a party to a proceeding or to participate as a party in any hearing therein must file a motion to intervene in accordance with the Commission's Rules.

Take further notice that, pursuant to the authority contained in and subject to the jurisdiction conferred upon the Federal Energy Regulatory Commission by sections 7 and 15 of the Natural Gas Act and the Commission's Rules of Practice and Procedure, a hearing will be held without further notice before the Commission or its designee on this application if no motion to intervene is filed within the time required herein, if the Commission on its review of the matter finds that permission and approval for the proposed abandonment are required by the public convenience and necessity. If a motion for leave to intervene is timely filed, or if the Commission on its own motion believes that a formal hearing is required, further notice of such hearing will be duly given.

Under the procedure herein provided for, unless otherwise advised, it will be unnecessary for Natural to appear or be represented at the hearing.

Lois D. Cashell,

Secretary.

[FR Doc. 93–18522 Filed 8–3–93; 8:45 am]

BILLING CODE 6717–01–M

[Docket No. ER93–560–000]

New York State Electric & Gas Co.; Filing

July 29, 1993.

Take notice that on July 16, 1993, New York State Electric & Gas Company (NYSEG) tendered for filing an amendment to its May 21, 1993 filing in this docket.

Any person desiring to be heard or to protest said filing should file a motion to intervene or protest with the Federal Energy Regulatory Commission, 825 North Capitol Street, NE., Washington, DC 20426, in accordance with Rules 211 and 214 of the Commission's Rules of Practice and Procedure (18 CFR 385.211 and 18 CFR 385.214). All such motions or protests should be filed on or before August 11, 1993. Protests will be considered by the Commission in determining the appropriate action to be taken, but will not serve to make protestants parties to the proceeding. Any person wishing to become a party must file a motion to intervene. Copies of this filing are on file with the Commission and are available for public inspection.

Lois D. Cashell,

Secretary.

[FR Doc. 93–18518 Filed 8–3–93; 8:45 am]

BILLING CODE 6717–01–M

[Docket No. ER93–764–000]

Northeast Utilities Service Co.; Filing

July 29, 1993.

Take notice that on July 19, 1993, Northeast Utilities Service Company (NUSCO), on behalf of its operating subsidiaries, The Connecticut Light and Power Company (CL&P) and Western Massachusetts Electric Company (WMECO), tendered for supplemental filing, pursuant to section 205 of the Federal Power Act and § 35.13 of the Commission's Regulations, its borderline sales tariffs and associated service agreements. These tariffs supplement NUSCO's July 2, 1993 filing and govern sales by and between CL&P and WMECO and their neighboring utility, Massachusetts Electric Company, for resale to individual customers. NUSCO request that the tariffs and agreements be made effective in accordance wit their terms.

NUSCO states that copies of its filing have been provided to each utility affected thereby.

Any person desiring to be heard or to protest said filing should file a motion to intervene or protest with the Federal Energy Regulatory Commission, 825 North Capitol Street, NE., Washington,

DC 20426, in accordance with Rules 211 and 214 of the Commission's Rules of Practice and Procedure (18 CFR 385.211 and 18 CFR 385.24). All such motions or protests should be filed on or before August 12, 1993. Protests will be considered by the Commission in determining the appropriate action to be taken, but will serve to make protestants parties to the proceeding. Any person wishing to become a party must file a motion to intervene. Copies of this filing are on file with the Commission and are available for public inspection.

Lois D. Cashell,

Secretary.

[FR Doc. 93–18519 Filed 8–3–93; 8:45 am]

BILLING CODE 6717–01–M

[Docket No. ER93–323–000]

Pepperell Power Associates Limited Partnership; Filing

July 29, 1993.

Take notice that on July 15, 1993, Pepperell Power Associates Limited Partnership (Pepperell) tendered for filing an amendment to its original filing in the above-referenced docket.

Any person desiring to be heard or to protest said filing should file a motion to intervene or protest with the Federal Energy Regulatory Commission, 825 North Capitol Street, NE., Washington, DC 20426, in accordance with Rules 211 and 214 of the Commission's Rules of Practice and Procedure (18 CFR 385.211 and 18 CFR 385.214). All such motions or protests should be filed on or before August 12, 1993. Protests will be considered by the Commission in determining the appropriate action to be taken, but will not serve to make protestants parties to the proceeding. Any person wishing to become a party must file a motion to intervene. Copies of this filing are on file with the Commission and are available for public inspection.

Lois D. Cashell,

Secretary.

[FR Doc. 93–18521 Filed 8–3–93; 8:45 am]

BILLING CODE 6717–01–M

[Docket No. CP93–581–000]

Texas Gas Transmission Corp.; Request Under Blanket Authorization

July 29, 1993.

Take notice that on July 26, 1993, Texas Gas Transmission Corporation (Texas Gas), 3800 Frederica Street, Owensboro, Kentucky 42301, filed in Docket No. CP93–581–000 a request pursuant to §§ 157.205 and 157.212 of the Regulations under the Natural Gas Act for authorization to add a new delivery point for Mississippi Valley Gas Company (MVG) under the certificate issued in Docket No. CP82–407–000, pursuant to section 7 of the Natural Gas Act, all as more fully set forth in the request on file with the Commission and open to public inspection.

Texas Gas states that MVG has requested that Texas Gas reestablish a delivery point at the location of the former Greenville #2 Delivery Point in Washington County, Mississippi to allow it to more efficiently supply the gas requirements of the Greenville, Mississippi area. Texas Gas proposes delivery of a maximum annual quantity of natural gas of 9,125,000 MMBtu and a maximum daily quantity of natural gas of 25,000 MMBtu to the proposed delivery point. Texas Gas indicates that service to MVG through the proposed delivery point can be accomplished without detriment to Texas Gas' other customers.

Any person or the Commission's staff may, within 45 days after issuance of the instant notice by the Commission, file pursuant to Rule 214 of the Commission's Rules of Practice and Procedure (18 CFR 385.214) a motion to intervene or notice of intervention and pursuant to § 157.205 of the Regulations under the Natural Gas Act (18 CFR 157.205) a protest to the request. If no protest is filed within the time allowed therefor, the proposed activity shall be deemed to be authorized effective the date after the time allowed for filing a protest. If a protest is filed and not withdrawn within 30 days after the time allowed for filing a protest, the instant request shall be treated as an application for authorization pursuant to section 7(c) of the Natural Gas Act.

Lois D. Cashell,

Secretary.

[FR Doc. 93–18524 Filed 8–3–93; 8:45 am]

BILLING CODE 6717–01–M

[Docket Nos. ER92–2–003, ER92–3–000, ER92–4–000, ER92–7–000, ER92–14–000, and ER92–443–000]

The United Illuminating Co.; Filing

July 29, 1993.

Take notice that on July 21, 1993, The United Illuminating Company (UI) submitted revised System Sales Agreements with Central Vermont Public Service Corporation, Connecticut Municipal Electric Energy Cooperative, UNITIL Power Corp., Massachusetts Municipal Wholesale Electric Company, Long Island Lighting Company, and Montaup Electric Company in compliance with the Commission's Order issued October 6, 1992.

Copies of the filing have been sent to the Connecticut Department of Public Utility Control and to the parties to the Agreements.

Any person desiring to be heard or to protest said filing should file a motion to intervene or protest with the Federal Energy Regulatory Commission, 825 North Capitol Street, NE., Washington, DC 20426, in accordance with Rules 211 and 214 of the Commission's Rules of Practice and Procedure (18 CFR 385.211 and 18 CFR 385.214). All such motions or protests should be filed on or before August 12, 1993. Protests will be considered by the Commission in determining the appropriate action to be taken, but will not serve to make protestants parties to the proceeding. Any person wishing to become a party must file a motion to intervene. Copies of this filing are on file with the Commission and are available for public inspection.

Lois D. Cashell,

Secretary.

[FR Doc. 93–18520 Filed 8–3–93; 8:45 am]

BILLING CODE 6717–01–M

[Docket No. CP93–582–000]

Williams Natural Gas Co.; Request Under Blanket Authorization

July 29, 1993.

Take notice that on July 26, 1993, Williams Natural Gas Company (WNG), P.O. 3288, Tulsa, Oklahoma 74101, filed in Docket No. CP93–582–000 a request pursuant to § 157.205 of the Commission's Regulations under the Natural Gas Act (18 CFR 157.205) for authorization to construct a lateral pipeline to provide pipeline quality gas to the Welda town border located in Anderson County, Kansas, under its blanket certificate issued in Docket No. CP82–479–000 pursuant to section 7 of the Natural Gas Act, all as more fully set forth in the request on file with the Commission and open to public inspection.

Specifically, WNG states that it proposes to construct approximately 700 feet of 2-inch pipeline from the existing Grabham-Welda 30-inch pipeline. WNG further states that the Welda town border is currently served from the Welda storage field and the quality of storage gas has caused numerous moisture and freezing problems. WNG says that service from the 30-inch pipeline would insure pipeline quality gas for the Welda town border. The volume of gas delivered is not expected to change, it is stated.

WNG states that the estimated cost of construction would be approximately $11,587, which would be paid from funds on hand.

WNG indicates that this change is not prohibited by an existing tariff and it has sufficient capacity to accomplish the deliveries specified without detriment or disadvantage to its other customers.

Any person or the Commission's staff may, within 45 days after issuance of the instant notice by the Commission, file pursuant to Rule 214 of the Commission's Procedural Rules (18 CFR 835.214) a motion to intervene or notice of intervention and pursuant to § 157.205 of the Regulations under the Natural Gas Act (18 CFR 157.205) a protest to the request. If no protest is filed within the time allowed therefor, the proposed activity shall be deemed to be authorized effective the day after the time allowed for filing a protest. If a protest is filed and not withdrawn within 30 days after the time allowed for filing a protest, the instant request shall be treated as an application for authorization pursuant to section 7 of the Natural Gas Act.

Lois D. Cashell,

Secretary.

[FR Doc. 93–18525 Filed 8–3–93; 8:45 am]

BILLING CODE 6717–01–M

Office of Fossil Energy

[FE Docket No. 93–72–NG]

Conoco, Inc.; Order Granting Blanket Authorization To Import and Export Natural Gas From and to Canada, and To Import Liquefied Natural Gas From any Foreign Country

AGENCY: Office of Fossil Energy, DOE.

ACTION: Notice of order.

SUMMARY: The Office of Fossil Energy of the Department of Energy gives notice that it has issued an order granting blanket authorization to Conoco, Inc., to import natural gas from and export natural gas to Canada, and to import liquefied natural gas (LNG) from any foreign country. These authorized transactions may not exceed a cumulative total of 50 Bcf of natural gas and LNG over a period of two years beginning on the date of the first delivery of either imports or exports after July 31, 1993.

This order is available for inspection and copying in the Office of Fuels Programs Docket Room, 3F–056, Forrestal Building, 1000 Independence Avenue, SW., Washington, DC 20585. The docket room is open between the hours of 8 a.m. and 4:30 p.m., Monday through Friday, except Federal holidays.

Issued in Washington, DC, on July 29, 1993.

Clifford P. Tomaszewski,

Director, Office of Natural Gas, Office of Fuels Programs, Office of Fossil Energy.

[FR Doc. 93–18585 Filed 8–3–93; 8:45 am]

BILLING CODE 6450–01–M

Western Area Power Administration

Pacific Northwest-Pacific Southwest Intertie Project (AC Intertie) Notice of Rate Order No. WAPA–56

AGENCY: Western Area Power Administration, DOE.

ACTION: Notice of Rate Order—AC Intertie Firm Transmission Service and Nonfirm Transmission Service Rate Adjustment.

SUMMARY: Notice is given of the confirmation and approval by the Acting Assistant Secretary for Energy Efficiency and Renewable Energy (Assistant Secretary) of the Department of Energy (DOE) of Rate Order No. WAPA–56 and Rate Schedules INT–FT1 and INT–NFT1, placing the proposed firm transmission service and nonfirm transmission service rates for the AC Intertie Project of the Western Area Power Administration (Western) into effect on an interim basis. These rates, hereafter called the provisional rates, will remain in effect on an interim basis until the Federal Energy Regulatory Commission (FERC) confirms, approves, and places them into effect on a final basis for a 5-year period or until superseded.

The provisional rates for AC Intertie transmission service rates are based on a two-step firm transmission service rate effective August 1, 1993. Step one of the firm transmission service rate would remain at the existing rate of $4.46 per kilowatt per year through September 30, 1995. Step two of the firm transmission service rate would be increased to $8.01 per kilowatt per year, which is an increase of 80 percent above the $4.46 per kilowatt per year firm transmission service rate.

The Bureau of Reclamation, Department of the Interior, approved the existing rate charge on a final basis, effective May 1, 1976.

A comparison of existing and provisional rates follows:

COMPARISON OF EXISTING AND PROVISIONAL POWER RATES

	Existing rates and step one of provisional rate Aug. 1, 1993–Sept. 30, 1995	Provisional rates Oct. 1, 1995
Rate Schedule .... Firm Transmission Service ($/kW/year).	No Schedule $4.46	INT–FT1 $8.01
Rate Schedule .... Nonfirm Transmission Service (mills/kWh).	No Schedule 1.00	INT–NFT1 1.52

DATES: Rate Schedules INT–FT1 and INT–NFT1 will become effective on an interim basis, beginning on August 1, 1993, and will be in effect until FERC confirms, approves, and places the rate schedules into effect on a final basis for a 5-year period or until superseded.

FOR FURTHER INFORMATION CONTACT:

Mr. Thomas A. Hine, Area Manager, Phoenix Area Office, Western Area Power Administration, P.O. Box 6457, Phoenix, AZ 85005–6457, (602) 352–2453

Ms. Deborah M. Linke, Director, Division of Marketing and Rates, Western Area Power Administration, P.O. Box 3402, Golden, CO 80401–3398, (303) 231–1545

Mr. Joel Bladow, Assistant Administrator for Washington Liaison, Western Area Power Administration, Room 8G–061, Forrestal Building, 1000 Independence Avenue SW., Washington, DC 20585–0001, (202) 586–5501

SUPPLEMENTARY INFORMATION: By Amendment No. 2 to Delegation Order No. 0204–108, published August 23, 1991 (56 FR 41835), the Secretary of Energy delegated (1) the authority to develop long-term power and transmission rates on a nonexclusive basis to the Administrator of Western; (2) the authority to confirm, approve, and place such rates into effect on an interim basis to the Assistant Secretary; and (3) the authority to confirm, approve, and place into effect on a final basis, to remand, or to disapprove such rates to FERC. Existing DOE procedures for public participation in power rate adjustments (10 CFR part 903) became effective on September 18, 1985 (50 FR 37835).

Western has developed these rates for the AC Intertie pursuant to the Department of Energy Organization Act (42 U.S.C. 7101 *et seq.*); the Reclamation Act of 1902 (32 U.S.C. 388 *et seq.*), as amended and supplemented by subsequent enactments, particularly section 9(c) of the Reclamation Project Act of 1939 (43 U.S.C. 485h(c)), and section 8 of the Act of August 31, 1964

(16 U.S.C. 837g), Final Rule (General Regulations) (10 CFR part 904) published in the **Federal Register** at 51 FR 43124 on November 28, 1986, and the DOE financial reporting policies, procedures for public participation in rate adjustments and extensions found in 10 CFR part 903 published in the **Federal Register** at 50 FR 37835 on September 18, 1985.

As stated in the **Federal Register** notice published May 8, 1992 (57 FR 19903), Western proposed alternative rates for both firm transmission service and nonfirm transmission service that set a single rate for the use of either or both the Parker-Davis Project and the AC Intertie transmission systems. However, based on customers' comments and requests, Western decided not to propose the Alternative Transmission service rates at this time.

During the 143-day comment period, Western received 24 written comments. In addition, five persons commented during the September 11, 1992, public comment forum. All comments were reviewed, and responses are addressed in this rate order.

Rate Order No. WAPA–56, confirming, approving, and placing the proposed AC Intertie Project rate adjustment into effect on an interim basis, is issued, and Rate Schedules INT–FT1 and INT–NFT1 will be promptly submitted to the FERC for confirmation and approval on a final basis.

Issued in Washington, DC, July 14, 1993.

Robert L. San Martin,

Acting Assistant Secretary for Energy Efficiency and Renewable Energy.

In the matter of: Western Area Power Administration Rate Adjustment for Phoenix Area Office AC Intertie Project, Rate Order No. WAPA–56.

Order Confirming, Approving, and Placing the AC Intertie Project Firm and Nonfirm Transmission Service Rate Into Effect on an Interim Basis

July 14, 1993.

Pursuant to section 302(a) of the Department of Energy (DOE) Organization Act, 42 U.S.C. 7101(a) *et seq.*, the power marketing functions of the Secretary of the Interior and the Bureau of Reclamation (Reclamation) under the Reclamation Act of 1902, 43 U.S.C. 388 *et seq.*, as amended and supplemented by subsequent enactments, particularly section 9(c) of the Reclamation Project Act of 1939, 43 U.S.C. 485h(c), and other acts specifically applicable to the projects involved, were transferred to and vested in the Secretary of Energy (Secretary).

By Amendment No. 2 to Delegation Order No. 0204–108, published on August 23, 1991 (56 FR 41835), the Secretary delegated (1) the authority to develop long-term power and transmission rates on a nonexclusive basis to the Administrator of the Western Area Power Administration (Western); (2) the authority to confirm, approve, and place such rates into effect on an interim basis to the Assistant Secretary for Conservation and Renewable Energy (Assistant Secretary); and (3) the authority to confirm, approve, and place into effect on a final basis, to remand, or to disapprove such rates to the Federal Energy Regulatory Commission (FERC). The Office of the Assistant Secretary for Conservation and Renewable Energy was subsequently redesignated as the Assistant Secretary for Energy Efficiency and Renewable Energy by the Secretary of Energy on March 3, 1993. Existing DOE procedures for public participation in power rate adjustments (10 CFR part 903) became effective on September 18, 1985 (50 FR 37835).

Acronyms and Definitions

As used in this rate order, the following acronyms and definitions apply:

AC Intertie: Pacific Northwest-Pacific Southwest Intertie Project.

Additions: A unit of property constructed or acquired which enhances or improves a project system.

Assistant Secretary for Energy Efficiency and Renewal Energy (Assistant Secretary): The approving authority to confirm, approve, and place rates into effect on an interim basis.

BCP: Boulder Canyon Project.

Cost Evaluation Period (CEP): The first 5 future years in the PRS, normally consistent with the budget period.

Crosswalk: A reconciliation between a project's PRS and Western financial statement.

CSRS: Civil Service Retirement System.

Current PRS: The PRS used in this rate order, which was used to test the adequacy of the existing rate.

Customer Brochure: A document prepared for public distribution explaining the background of the rate proposal contained in this rate order.

DOE: Department of Energy.

DOE Act: Department of Energy Organization Act, August 4, 1977 (42 U.S.C. 7101 *et seq.*)

DOE Order RA 6120.2: An order dealing with power marketing administration financial reporting.

EIS: Environmental impact statement.

Engineering Ten Year Construction and Replacement Plan: A planning document prepared by Western for transmission system construction for a 10-year period. Also referred to as the "Engineering 10-Year Plan."

FERC: Federal Energy Regulatory Commission.

FDR: Facilities development report. A planning document prepared by Western for specific transmission system construction.

FY: Fiscal year.

IDC: Interest During Construction.

Interior: U.S. Department of the Interior.

kW: Kilowatt.

$/kW/year: Annual charge for capacity (usage—$ per kilowatt per year).

kWh: Kilowatthour.

Mills/kWh: Mills per kilowatthour.

Multiproject Costs: These are costs for facilities being charged to one project that benefits other projects.

MW: Megawatt.

NEPA: National Environmental Policy Act of 1969. (42 U.S.C. 4321 *et seq.*).

O&M: Operations and maintenance.

P-DP: Parker-Davis Project.

PAO: Phoenix Area Office.

Pinch-point: The FY in which the level of the rate is set as dictated by a revenue requirement in some future year to meet relatively large annual costs or to repay investments which come due.

PRS: Power repayment study.

Proposed rate: A rate revision that the Administrator of Western recommends to the Assistant Secretary for Energy Efficiency and Renewable Energy for approval.

Provisional rate: A rate which has been confirmed, approved, and placed into effect on an interim basis by the Assistant Secretary for Energy Efficiency and Renewable Energy.

Ratesetting PRS: The PRS that utilizes, in whole or part, proposed or assumed rates. It is designed to demonstrate that potential revenue levels will satisfy the cost recovery criteria over the remainder of the power system's repayment period.

Reclamation: Bureau of Reclamation, U.S. Department of the Interior.

Replacement: A unit of property constructed or acquired as a substitute for an existing unit of property for the purpose of maintaining the power features of a project.

Replacement study: The cyclical analysis of replacement service lives. A high level of replacement activity for a few consecutive years will reoccur in future years at a similar high level with the years in between tending to be at a lesser level of replacement.

Secretary: Secretary of Energy.

Treasury: Secretary of the Department of the Treasury

Western: Western Area Power Administration, DOE.

Effective Date

The AC Intertie rates for firm transmission service and nonfirm transmission service will become effective on an interim basis beginning on August 1, 1993, and will be in effect until FERC confirms, approves, and places the rate schedules into effect on a final basis for a 5-year period or until superseded. Western is implementing a two-step rate for firm transmission and nonfirm transmission service.

The first step is a continuation of the rate due to no additional revenues needed prior to 1996.

The reason for the second step increase is that the 500-kV Mead-Phoenix transmission line comes into service in FY 1996, along with its additional capacity. This will add significantly to the transmission capability available to the AC Intertie customers. Also, FY 1996 revenues are estimated on full transmission capability on a bilateral basis.

Public Notice and Comment

The Procedures for Public Participation in Power and Transmission Rate Adjustments and Extensions, 10 CFR part 903, have been followed by Western in the development of the firm transmission service and nonfirm transmission service rates. The provisional firm transmission service and nonfirm transmission service rates represent an increase of approximately 80 percent in the firm transmission service rate and 52 percent in the nonfirm transmission service rate; therefore, it is a major rate adjustment as defined at 10 CFR 903.2(e) and 903.2(f)(1). The distinction between a minor and a major rate adjustment is used only to determine the public procedures for the rate adjustment.

The following summarizes the steps Western took to ensure involvement of interested parties in the rate process:

1. A **Federal Register** notice was published on May 8, 1992 (57 FR 19903), officially announcing the proposed rate adjustment for firm transmission service and nonfirm transmission service rates; initiating the public consultation and comment period; announcing the June 19, 1992, public information forum and the June 30, 1992, public comment forum; and presenting procedures for public participation.

2. A letter was mailed to all AC Intertie customers and other interested parties on May 19, 1992, providing a copy of the AC Intertie Proposed Rate Adjustment Brochure and announcing the informal customer meeting. The informal customer meeting was held on June 3, 1992, in Phoenix, Arizona. At this informal meeting, Western representatives explained the need for the increase and answered questions from those attending.

3. At the public information forum held on June 19, 1992, Western explained the need for the proposed rate adjustments and answered questions from those attending. Western also announced the planned second public comment forum and the extension of the consultation and comment period for the AC Intertie.

4. At the public information forum and public comment forum held on June 30, 1992, Western explained the need for the proposed rate adjustments in greater detail and answered questions.

5. On August 6, 1992, a **Federal Register** notice was published (57 FR 33777) formally announcing that the consultation and comment period would be extended through September 28, 1992, for the proposed rate adjustments for the AC Intertie.

6. A public comment forum was held on September 11, 1992, to give the public an opportunity to comment for the record. Five people, who represent customers and customer groups, made oral comments.

7. Twenty-four comment letters were received during the 143-day consultation and comment period. The consultation and comment period ended on September 28, 1992.

Project History

The AC Intertie was authorized as part of a much larger alternating current (AC) and direct current (DC) combined transmission system (Pacific Intertie Project) by section 8 of the Act of August 31, 1964, 16 U.S.C. 837g. The basic purpose of the Pacific Intertie Project was to provide, through power transmission system interconnections, maximum utilization of the total power resources to meet the nation's growing demands. This purpose was to be accomplished through: (1) The exchange of summer-winter surplus peaking capacity between the Northwest and Southwest to reduce capital expenditures for new generating capacity, (2) the sale of Northwest secondary energy to the Southwest, (3) the sale of Southwest energy to the Northwest to "firm" peaking hydroelectric sources during critical water years, (4) conservation of significant amounts of fuel through the use of surplus hydroelectric energy, and (5) increased efficiency in the operation of hydroelectric and thermal resources. As authorized, the Pacific Intertie Project was to be a cooperative construction venture by Federal and non-Federal entities that incorporated the capability for both AC and DC transmission components and that provided an intertie among certain Federal and non-Federal power systems.

The Lower Colorado Region (LCR), Bureau of Reclamation, U.S. Department of the Interior, was assigned construction jurisdiction for (1) the Celilo-Mead 750-kV DC transmission line from the Oregon-Nevada border to Mead Substation, (2) Mead Substation, and (3) all facilities south of Mead Substation. Several delays in congressional construction funding for the DC line revised its estimated in-service date to the point that some of the potential users withdrew their interest. This, and the subsequent lack of congressional funding, resulted in the May 1969 indefinite postponement of the DC line construction. Consequently, the facilities constructed provide only AC transmission service.

Pursuant to section 302 of the DOE Organization Act, 42 U.S.C. 7152(a), dated August 4, 1977, these Reclamation constructed facilities were transferred to Western. Therefore, we are concerned only with those AC Intertie facilities which are administered by Western's Phoenix Area Office and which provide AC transmission service. To simplify identification, these facilities have been classified as the AC Intertie.

This is Western's first transmission service rate increase for the AC Intertie project being presented before FERC.

Power Repayment Studies

PRS's are prepared each fiscal year to determine if power revenues will be sufficient to pay, within the prescribed time periods, all costs assigned to the power function. Repayment criteria are based on law, policies, and authorizing legislation. DOE Order RA 6120.2, section 12.b, states:

> In addition to the recovery of the above costs (operations and maintenance and interest expenses) on a year-by-year basis, the expected revenues are at least sufficient to recover (1) each dollar of power investment at Federal hydroelectric generating plants within 50 years after they become revenue producing, except as otherwise provided by law; plus (2) each annual increment of Federal transmission investment within the average service life of such transmission facilities or within a maximum of 50 years, whichever is less; plus (3) the cost of each replacement of a unit of property of a Federal power system within its expected service life up to a maximum of 50 years; plus, (4) each dollar of assisted irrigation investment within the period established for the irrigation water users to repay their share of

construction costs; plus (5) other costs such as payments to basin funds, participating projects, or States.

Existing and Provisional Rates

A comparison of the existing and provisional rates follows:

COMPARISON OF EXISTING AND STEP 1 PROVISIONAL RATES

Type of Service	Existing rates May 1, 1976	Provisional rates Aug. 1, 1993	Percent change
Firm Transmission Service	$4.46/kW/yr	$4.46/kW/yr	0.00
Nonfirm Transmission Service	1.00 mills/kWh	1.00 mills/kWh	0.00

COMPARISON OF EXISTING AND STEP 2 PROVISIONAL RATES

Type of service	Existing rates Aug. 1, 1993	Provisional rates Oct. 1, 1995	Percent change
Firm Transmission Service	$4.46/kW/yr	$8.01/kW/yr	80.0
Nonfirm Transmission Service	1.00 mills/kWh	1.52 mills/kWh	52.0

Certification of Rates

Western's Administrator has certified that the AC Intertie firm and nonfirm transmission service rates placed in effect on an interim basis herein, are the lowest possible consistent with sound business principles. The rates have been developed in accordance with administrative policies and applicable laws.

Discussion

Background of Provisional Rates

Based upon FY 1991 data, the PRS for the AC Intertie showed that the existing firm transmission service rate of $4.46/kW/year and nonfirm transmission service rate of 1.00 mills/kWh would not provide sufficient revenues to pay the project costs within the prescribed time periods. The ratesetting FY 1992 PRS indicates that a transmission service rate of $8.01/kW/year for firm transmission service and 1.52 mills/kWh for nonfirm transmission service is required to meet revenue requirements for FY 1996 through the end of the study. Western is implementing a two-step rate for firm transmission service and nonfirm transmission service. The reason for the second step increase is that the 500-kV Mead-Phoenix transmission line comes into service in FY 1996, along with its additional capability. This will also add significantly to the transmission capability available to the AC Intertie customers.

The provisional rates filed with FERC have been updated from the rate originally proposed in the customer brochure and **Federal Register** notice dated May 8, 1992. The changes to the FY 1992 PRS are as follows:

—Multiproject costs were updated through September 30, 1992.

—Replacement and addition projections in the cost evaluation period were changed to incorporate "The Engineering Ten Year Construction and Replacement Plan" dated July 1992.

—Future-year replacements, starting in FY 1993–2047, are projected at the most current interest rate of 7.875 percent as compared to FY 1991 interest of 8.50 percent.

—Projections used in FY 1992 for operation and maintenance, interest expense, and operating revenues were updated to FY 1992 actuals, as stated in Western's financial statements.

—The provisional rates for firm and nonfirm transmission service were initially proposed as single-step rates effective for a 5-year period beginning October 1, 1992. However, in response to customers' comments, Western will implement two-step rates. Step one rates of the provisional rates will become effective August 1, 1993. Step two rates will become effective October 1, 1995. The results of the FY 1992 adjustments decreased the previous step one rate originally proposed by 17.04 percent, reducing the rate from $5.22/kW/yr for firm transmission service to the current rate of $4.46/kW/yr. Step two of the proposed rate decreased by 2 percent, from $8.17/kW/yr to $8.01/kW/yr.

The existing and proposed revenue requirements for the AC Intertie are as follows:

	Revenue requirements ($1,000's)	
	Existing and proposed step one FY 1993–95)	Proposed (FY 1996)[1]
Revenue Requirements	$5,076	$24,884

[1] The step one provisional rates are in effect from August 1, 1993, through September 30, 1995, and are the same as existing rates. The step two provisional rates are in effect from October 1, 1995, through July 31, 1998.

The rate increase is necessary to satisfy the cost-recovery criteria set forth in DOE Order RA 6120.2.

Replacement and Addition Activities

The provisional rate adjustments are largely due to an increase in replacements and additions on the AC Intertie. The AC Intertie initial investment will not be fully paid until 2028. However, the AC Intertie is undergoing major additions, which will provide better service to the customers and additional transmission paths that are presently not available. This plan is outlined in "The Engineering Ten Year Construction and Replacement Plan," dated July 1992. The goal of the Engineering Ten Year Construction and Replacement Plan is to use and coordinate resources. This plan will help maintain the lowest rate possible without jeopardizing the crucial need for a safe and reliable AC Intertie transmission system. The FY 1992 PRS incorporates the first 5 years of this "Engineering Ten Year Construction and Replacement Plan."

The capitalized costs for future replacements and additions in the cost evaluation period includes IDC. The IDC calculation for each replacement is determined by the interest rate in the year construction begins. The annual interest expense for replacements and additions is also based on the interest rate in the year construction begins. The total replacement cost for the cost evaluation period through the end of the study is $16,900,482. The total additional cost of the 500-kV Mead-Phoenix transmission line for the cost evaluation period through the end of the study is $188,834,352.

Statement of Revenue and Related Expenses

The following table provides a summary of revenue and expense data for the 5-year proposed rate approval period.

AC INTERTIE PROJECT 5-YEAR RATE STUDY SUMMARY PERIOD REVENUES AND EXPENSES

[$1,000]

	FY 1992 PRS 1993–97
Revenues:	
Firm Transmission	55,357
Other Revenues	18,658
Total Revenues	74,015
Revenue Distribution:	
Operations & Maintenance	17,260
Other Deductions	896
Interest on Deferred Annual Cost	0
Interest	43,510
Investment Repayment	12,349
Capitalized Expenses	0
Study-Year Adjustments	0
Total	74,015

Basis for Rate Development

Comments Received

During the 143-day comment period, Western received 24 written comments. In addition, five persons commented during the September 11, 1992, public comment forum. All comments were reviewed and considered in the preparation of this rate order.

Written comments were received from the following sources:

Aguila Irrigation District (Arizona)
Ak-Chin Indian Community (Arizona)
Arizona Municipal Power Users' Association (Arizona)
Arizona Power Pooling Association (Arizona)
Arizona Public Service Company (Arizona)
Buckeye Water Conservation & Drainage District (Arizona)
Central Arizona Water Conservation District (Arizona)
City of Safford (Arizona)
Coloredo River Commission of Nevada (Nevada)
Electrical District No. 2, Pinal County (Arizona)
Electrical District No. 5, Pinal County (Arizona)
Electrical District No. 7, Maricopa County (Arizona)
Harquahala Valley Power District (Arizona)
Irrigation and Electrical Districts Association of Arizona (Arizona)
Maricopa Water District (Arizona)
McMullen Valley Water Conservation and Drainage District (Arizona) Meyer, Hendricks, Victor, Osborn & Maledon (5 Entities)
Overton Power District No. 5 & Valley Electric Association, Inc. (Nevada)
Roosevelt Irrigation District (Arizona)
Roosevelt Water Conservation District (Arizona)
Salt River Project (Arizona)
San Carlos Irrigation and Drainage District (Arizona)
Southern California Edison Company (California)
Tonopah Irrigation District (Arizona)

Representatives of the following organizations made oral comments:

Arizona Power Authority, Leroy Michael, Jr. (Arizona)
Colorado River Commission of Nevada, Thomas Cahill (Nevada)
Irrigation and Electrical Districts Association of Arizona, Robert S. Lynch (Arizona)
Jay I. Moyes (5 Hoover Customer Entities) (Arizona)
James T. McManus (Overton Power District No. 5 & Valley Electric Association, Inc.) (Nevada)

Most of the comments received at the public meetings and in correspondence were related to operation and maintenance expenses, capitalized investment costs, ratesetting, cost allocations to the AC Intertie, and working committee issues. All comments were considered in developing the provisional rates.

The comments and responses, paraphrased for brevity, are discussed below.

Ratesetting Issues

Comment: A customer requests the exclusion of the expenses and costs associated with the portions of the Intertie between Marketplace, Adelanto, and Lugo.

Comment: Customers support levelizing of the costs. Customers believe that a separate rate or rates for the Marketplace-Adelanto-Lugo segments should be required. Customers support the stepped-rate increase proposal and encourage Western to conduct further studies to determine the feasibility of the complete operational integration of all the transmission facilities in the Phoenix Area.

Comment: Customers renew their support for the alternative transmission rate and the Intertie rate adjustment process.

Comment: Customers are opposed to Western's proposed alternative transmission rate for the Parker-Davis and AC Intertie Projects.

Response: Western considered excluding costs for the Marketplace-Adelanto-Lugo transmission line segments. However, these segments will become an integral part of the AC Intertie transmission system and are, therefore, included in the PRS. Since Western and the customers agreed not to recommend the implementation of the alternative transmission service rates, Western plans to implement separate Parker-Davis Project and AC Intertie rates for firm transmission service and nonfirm transmission service. Operationally, the various Phoenix Area Office's power systems are integrated. Power marketing functions will continue to be performed separately for each individual project. Western will continue to work with the customers in conducting studies and evaluating other alternatives for developing a single transmission service rate for the various projects within the Phoenix Area Office.

Comment: Nonfirm transmission rates should be increased by the same percentage as firm transmission rates.

Response: Western believes the current method of calculating the nonfirm transmission service rate is the lowest rate consistent with sound business principles and in accordance with DOE Order RA 6120.2, which discusses transmission service and other costs. These costs, to be estimated for the cost evaluation period, include payments to others required by legislation, "wheeling" payments for use of transmission capacity, rental payments for the use of electrical facilities, payments for detriment caused by project facilities or operation, payments for increased benefits furnished by others, credit payments under certain contracts, and interconnection costs for which a payment is made based on contractual commitments. The formula used to determine the nonfirm transmission service rate is as follows: Firm transmission rate, divided by 8,760 hours, divided by load factor of .60, times 1,000. Increasing the cost of the nonfirm transmission service rate by the same percentage increase as the firm transmission rate would result in a higher rate. Western believes continued use of its current method is appropriate.

Comment: Customer believes that Western must re-examine its level of

participation in the last segment of the Adelanto-Lugo transmission facilities.

Comment: Interest and principal payment obligations due to participation in new 500-kV transmission facilities, as well as the level of investment in the new 500-kV transmission facilities, may not be justifiable.

Comment: Customer believes that no serious feasibility analysis has been performed on Mead-Adelanto or Adelanto-Lugo segments of this project.

Response: Western believes that the level of investment in the new facilities has been justified. Western has been authorized by Congress and is committed by written contract for the additional facilities of the AC Intertie Project. The terms and conditions are explained in the "Composite Development Agreement for the Mead-Phoenix Project and Mead-Adelanto Project." Therefore, excluding these facilities is not an option available to Western.

Comment: The pinch-point methodology needs to be re-examined.

Comment: Customer is concerned that the Intertie rate lacks the required audits, which make the proposed rates noncertifiable and not in compliance with the legal requirements. There is the same concern that the pinch-point methodology renders the rate noncertifiable and that this methodology does not render out the lowest possible rates.

Comment: Customer questions whether service is being provided at lowest possible cost consistent with sound business principles.

Comment: Customer believes it would be appropriate to postpone rate implementation at this time.

Response: Western has re-examined the pinch-point methodology. The pinch-point methodology is a rate determination process which computes/calculates the lowest possible single rate which will satisfy not only the annual revenue requirements for each year of the repayment study, but also the overall study revenue requirements for each year of the repayment study. This process continues throughout each year of the power repayment study until the lowest possible rate has been determined to meet the revenue requirements. The use of the pinch-point methodology and the overall requirements are justified and identified in DOE Order RA 6120.2. Section 12 of this order describes the guidelines for the cost recovery criteria which is what the pinch-point methodology accomplishes. Implementation of this rate through the pinch-point methodology incorporates audited financial data by KPMG Pete Marwick, which includes specific data for the AC Intertie Project. Western believes that the proposed rate increase has been proved to be the lowest possible rate, consistent with sound business principles, and that implementation of the proposed rates should be approved as scheduled.

Comment: Customer questions the marketability assumptions of the new capacity requirements and the impact on rates.

Response: Western assumed that all capacity in the new facilities could be fully marketed. While Western agreed with the Customers' concerns that this assumption may be optimistic, it is nonetheless achievable and results in the lowest possible rates to its customers. As contracts for the new capacity are finalized, the result of these changes will be reflected in the assumptions and the rate re-evaluated once contract commitments are better defined.

Transmission Issues

Comment: Customer urges Western to adopt a proposal which includes the alternative transmission rate and is based upon defining the Intertie as the Phoenix Area to Mead-Marketplace Intertie facilities and recognizes each of the contractor's rights to schedule their full contract amount over the P-DP and defined Intertie systems.

Response: Western and the customers agreed not to recommend the implementation of the alternative transmission rates. Western, however, will continue to consider this issue.

O&M Issues

Comment: Western is requested to examine its planning methods, replacement policy, and the rate impacts, as a result of shifting the in-service dates of planned construction projects.

Comment: Customer has a concern about the magnitude of projected expenditures for O&M. They urge Western to allow customer review and input into Western's work plans at an early enough stage of the planning cycle to have an influence on the rate impact.

Response: Western continues to examine its planning methods annually. Western develops a FDR for each major construction project activity. FDRs are used to determine the need for the construction of a new facility. In this report, rate impacts of a new facility are analyzed. The "Engineering Ten Year Construction and Replacement Plan" is designed to effectively plan, prioritize, schedule, and analyze rate impacts on all the construction and replacement activity for the Phoenix Area Projects. Western has recently taken steps to involve the customers in the development of this 10-year plan.

Comment: Customer believes the general Western allocation expense is excessive.

Comment: Customer believes indirect charges in the AC Intertie Project from the Phoenix Area Office and other Western offices should be limited to increases in indirect costs from these offices.

Response: Western's indirect costs are divided into three categories: associated direct expense (ADE), administrative and general expense (AGE), general Western allocation (GWA). ADE consists of undistributed costs and expenses for all types of direct costs which possess a clear relationship to benefiting activities and are recovered in the power rate base. AGE costs are general and administrative expenses benefiting ratepayers and reimbursable customers and represent primarily costs for nonmanagerial staff and support. GWA is a subset of AGE and includes ADP expenses, general office supplies, contracted administrative services, etc. Independent auditors determined that AGE and GWA exclusively benefit ratepayers and should be recovered as part of the costs included in the power rate base. The indirect cost distribution system was designed and endorsed by a major accounting firm and is consistent with industry standards. Western does not believe these costs are excessive in the manner in which they are distributed.

Comment: Customer feels environmental compliance expenses should not be forecasted in 1994 and through the end of the study.

Response: The cost forecasted for environmental compliance is due to conducting site investigations, cleanup of contaminated areas, disposal of waste material, and equipment needed to comply with the environmental regulations. Western's projections for these future years include all environmental costs related to the project. These costs are required by governmental regulations and need to be included in the rate study.

Capitalized Investment Cost Issues

Comment: There are Customers who are concerned with the need and magnitude of the projected replacements program.

Response: The need for projected replacements has been previously examined and justified through the O&M and engineering budget process. Projected replacements and additions have been identified in Western's

"Engineering Ten Year Construction and Replacement Plan," along with Western's FY 1993 budget documents. Because replacements activities are continuously changing, it is Western's intention to annually update and evaluate the "Engineering Ten Year Construction and Replacement Plan."

Comment: Contractor believes that Western did not conduct appropriate levels of planning and analysis before committing $183 million to new additions.

Response: Western believes that the appropriate levels of planning and analysis have been conducted for determining future additions. Western's decision to commit to the new investments were based on positive results of a completed study conducted jointly by Western and a consultant. Western's commitment to these new additions is supported by a copy of the report entitled "Resource and Transmission Study Final Report," dated May 18, 1990. This report presents the results of a joint study conducted by Western and Black & Veatch consultants. Western also develops Facility Development Reports, the "Engineering Ten Year Construction and Replacement Plan," and budget documents, which all reflect the estimated project cost and the contractual commitment associated with the project's additions.

Comment: Customer believes that Interest During Construction has been incorrectly calculated and needs to be revised.

Comment: Western's definition for the start of construction for charging Interest During Construction should be revised to reflect FERC policy.

Response: Western has examined the procedure for using the interest rate in effect at the beginning of the project. Western believes this procedure properly reflects FERC policy. IDC accumulates at the appropriate effective interest rate for a replacement or an addition when the first direct cost (FERC Accounts 350 and above) is incurred to initiate construction. IDC terminates at the end of the fiscal year in which the job is placed in service.

Working Committee Issues

Comment: Customer believes that lack of customer focus or orientation is prevalent throughout Phoenix Area Office.

Comment: Customer requests that Western adopt the alternative transmission rate on the basis of "establishing a proposed process for the contractors and Western to establish and empower an Engineering and Oversight Committee which would give the customers real participation in Western program needs, costs, and budgeting process before decisions are made."

Response: Western is committed to working closely with the customers in the development of a Customer/Agency Working Committee and has, in fact, initiated a procedure for allowing its customers more advance input to the planning process. Western has no objection to customer participation in the planning and budget process and is in process to initiate a working committee beginning June 16, 1993.

Other Issues

Comment: Western's estimated transmission costs from 2 years ago are significantly higher than the costs estimated in this rate adjustment process. Customer has some concerns about the significant reduction in the transmission service cost to new Mead-Phoenix contractors, which would come at a significant cost increase to existing Mead-Liberty contractors.

Response: A significant reduction to AC Intertie transmission costs has been due to reconciliation of the PRS to Western's financial statements, which represent adjustments made to reflect actual expenditures incurred rather than the estimates which were developed 2 years ago. Western has also developed more realistic projections which are derived from more current budget documents and the Engineering "Ten Year Construction and Replacement Plan" for future years. Western agrees that the added transmission line segments will cause an increase to transmission service costs to all Western customers and that under the current transmission rate this is equitable.

Environmental Evaluation

In compliance with the National Environmental Policy Act of 1969, 42 U.S.C. 4321 et seq.; Council on Environmental Quality Regulations (40 CFR parts 1500–1508); and DOE NEPA Regulations (10 CFR part 1021), Western has determined that this action is categorically excluded from the preparation of the environmental assessment or EIS.

Executive Order 12291

DOE has determined that this rate action is not a major rule within the meaning of the criteria of section 1(b) of Executive Order 12291. In addition, Western is exempt from sections 3, 4, and 7 of that order and therefore will not prepare a regulatory impact statement.

Availability of Information

Information regarding this rate adjustment, including PRS's, comments, letters, memorandums, and other supporting material made or kept by Western for the purpose of developing the power rates, is available for public review in the Phoenix Area Office, Western Area Power Administration, Office of the Assistant Area Manager for Power Marketing, 615 South 43rd Avenue, Phoenix, Arizona 85009–5313; Western Area Power Administration, Division of Marketing and Rates, 1627 Cole Boulevard, Golden, Colorado 80401–3398; and Western Area Power Administration, Office of the Assistant Administrator for Washington Liaison, room 8G–061, Forrestal Building, 1000 Independence Avenue SW., Washington, DC 20585.

Submission to Federal Energy Regulatory Commission

The rates herein confirmed, approved, and placed in effect on an interim basis, together with supporting documents, will be submitted to FERC for confirmation and approval on a final basis.

Order

In view of the foregoing and pursuant to the authority delegated to me by the Secretary of Energy, I confirm and approve on an interim basis, effective August 1, 1993, the Rate Schedules INT–FT1 and INT–NFT1. The rate schedules shall remain in effect on an interim basis, pending FERC confirmation and approval of them or substitute rates on a final basis, through July 31, 1998.

Issued in Washington, DC, July 14, 1993.

Robert L. San Martin,

Acting Assistant Secretary for Energy Efficiency and Renewable Energy.

Rate Schedule INT–FT1

Pacific Northwest-Pacific Southwest Intertie Project Schedule of Rates for Firm Transmission Service

Effective

Step One: The first day of the first full billing period beginning on or after August 1, 1993.

Step Two: The first day of the first full billing period beginning on or after October 1, 1995, and will remain in effect through July 31, 1998, until superseded, whichever occurs first.

Available

Within the marketing area served by the Pacific Northwest-Pacific Southwest Intertie Project.

Applicable

To firm transmission service customers where capacity and energy are supplied to the Pacific Northwest-Pacific Southwest Intertie Project (AC Intertie) system at points of interconnection with other systems and transmitted and delivered, on a bidirectional basis, less losses, to points of delivery on the AC Intertie system specified in the service contract.

Character and Conditions of Service

Alternating current at 60 Hertz, three-phase, delivered and metered at the voltages and points of delivery established by contract.

Rate

Step One

Firm Transmission Service Charge: $4.46 per kilowatt per year for each kilowatt delivered at the point of delivery, as established by contract: payable monthly at the rate of $0.372 per kilowatt.

Step Two

Firm Transmission Service Charge: $8.01 per kilowatt per year for each kilowatt delivered at the point of delivery, as established by contract: payable monthly at the rate of $0.6675 per kilowatt.

Adjustments

For Reactive Power

None. There shall be no entitlement to transfer of reactive kilovolt-amperes at points of delivery, except when such transfers may be mutually agreed upon by contractor and contracting officer or their authorized representatives.

For Losses

Capacity and energy losses incurred in connection with the transmission and delivery of capacity and energy under this rate schedule shall be supplied by the customer in accordance with the service contract.

Billing for Unauthorized Overruns:

For each billing period in which there is a contract violation involving an unauthorized overrun of the contractual firm power and/or energy obligation, such overrun shall be billed at 10 times the above rate.

Rate Schedule INT–NFT1

Pacific Northwest-Pacific Southwest Intertie Project

Schedule of Rates for Nonfirm Transmission Service

Effective

Step One: The first day of the first full billing period beginning on or after August 1, 1993.

Step Two: The first day of the first full billing period beginning on or after October 1, 1995, and will remain in effect through July 31, 1998, until superseded, whichever occurs first.

Available

Within the marketing area served by the Pacific Northwest-Pacific Southwest Intertie Project.

Applicable

To nonfirm transmission service customers where capacity and energy are supplied to the Pacific Northwest-Pacific Southwest Intertie Project (AC Intertie) system at points of interconnection with other systems and transmitted and delivered, on a bidirectional basis, less losses, to points of delivery on the AC Intertie system established by contract.

Character and Conditions of Service

Alternating current at 60 Hertz, three-phase, delivered and metered at the voltages and points of delivery established by contract.

Rate

Step One

Nonfirm Transmission Service Charge: 1.00 mills per kilowatthour of the scheduled or delivered kilowatthours at the point of delivery, established by contract: payable monthly.

Step Two

Nonfirm Transmission Service Charge: 1.52 mills per kilowatthour of the scheduled or delivered kilowatthours at the point of delivery, established by contract: payable monthly.

Adjustments

For Reactive power

None. There shall be no entitlement to transfer of reactive kilovolt-amperes at points of delivery, except when such transfers may be mutually agreed upon by contractor and contracting officer or their authorized representatives.

For Losses

Capacity and energy losses incurred in connection with the transmission and delivery of capacity and energy under this rate schedule shall be supplied by the customer in accordance with the service contract.

[FR Doc. 93–18586 Filed 8–3–93; 8:45 am]
BILLING CODE 6450–01–P

ENVIRONMENTAL PROTECTION AGENCY

[FRL–4587–4]

Agency Information Collection Activities Under OMB Review

AGENCY: Environmental Protection Agency (EPA).

ACTION: Notice.

SUMMARY: In compliance with the Paperwork Reduction Act (44 U.S.C. 3501 *et seq.*), this notice announces that the Information Collection Request (ICR) abstracted below has been forwarded to the Office of Management and Budget (OMB) for review and comment. The ICR describes the nature of the information collection and its expected cost and burden.

DATES: Comments must be submitted on or before September 3, 1993.

FOR FURTHER INFORMATION, OR TO OBTAIN A COPY OF THIS ICR, CONTACT: Sandy Farmer at EPA, (202) 260–2740.

SUPPLEMENTARY INFORMATION:

Office of Prevention, Pesticides and Toxic Substances

Title: Compliance Requirement for the Child-Resistant Packaging–(EPA ICR No.: 0616.05; OMB No.: 2070–0052). This is a request for extension of the expiration date of a currently approved collection.

Abstract: Under section 25(c)(3) of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), and the EPA Child-Resistant Packaging (CRP) program, pesticide registrants must perform testing necessary to certify that packaging for pesticides and devices are child-resistant. They must review performance testing data to ensure that it will support their CRP certification. Registrants must obtain, and submit to EPA, production data necessary to support a claim that a product should be exempt from CRP compliance requirements. Registrants must submit to EPA the certification of compliance and they must keep records of all the information gathered in support of the certification. The Agency uses the information to ensure compliance with FIFRA.

Burden Statement: The public reporting burden for this collection of

information is estimated to average 1.5 hours per respondent for reporting and 30 minutes per recordkeeper annually. This estimate includes the time needed to review instructions, gather and maintain the data needed, and complete and review the collection of information.

Respondents: Chemical registrants.

Estimated No. of Respondents: 476.

Estimated No. of Responses per Respondent: 1.

Estimated Total Annual Burden on Respondents: 952 hours.

Frequency of Collection: On occasion.

Send comments regarding the burden estimate, or any other aspect of the information collection, including suggestions for reducing the burden to:

Sandy Farmer, U.S. Environmental Protection Agency, Information Policy Branch (PM 223Y), 401 M Street, SW., Washington, DC 20460.

and

Matthew Mitchell, Office of Management and Budget, Office of Information and Regulatory Affairs, 725 17th Street, NW., Washington, DC 20503.

Dated: June 18, 1993.

Paul Lapsley,

Director, Regulatory Management Division.

[FR Doc. 93–18574 Filed 8–3–93; 8:45 am]

BILLING CODE [illegible]

[FRL–4687–5]

Public Water Supply Supervision Program; Program Revision for the State of Washington

AGENCY: Environmental Protection Agency.

ACTION: Notice.

SUMMARY: Notice is hereby given that the State of Washington is revising its approved State Public Water Supply Supervision Primacy Program. Washington has adopted drinking water regulations for total coliforms and the treatment of surface water. EPA has determined that these sets of State program revisions are no less stringent than the corresponding federal regulations. Therefore, EPA has tentatively decided to approve these State program revisions.

All interested parties may request a public hearing. A request for public hearing must be submitted by September 3, 1993 to the Regional Administrator at the address shown below. Frivolous or insubstantial requests for a hearing may be denied by the Regional Administrator. However, if a substantial request for a public hearing is made by September 3, 1993, a public hearing will be held. If no timely and appropriate request for a hearing is received and the Regional Administrator does not elect to hold a hearing on his own motion, this determination shall become final and effective September 3, 1993.

Any request for a public hearing shall include the following: (1) The name, address, and telephone number of the individual, organization, or other entity requesting a hearing; (2) a brief statement of the requesting person's interest in the Regional Administrator's determination and of information that the requesting person intends to submit at such hearing; and (3) the signature of the individual making the request; or, if the request is made on behalf of an organization or other entity, the signature of a responsible official of the organization or other entity.

ADDRESSES: All documents relating to this determination are available for inspection between the hours of 8 a.m. and 4:30 p.m., Monday through Friday, at the following offices:

Department of Health (DOH), Division of Drinking Water, Airdustrial Center, Building #3, Olympia, Washington

DOH Northwest Regional Office, 1511 Third Avenue, #719, Seattle, Washington

DOH Eastern Regional Office, West 924 Sinto Avenue, Spokane, Washington

Environmental Protection Agency, Region 10 Library, 1200 Sixth Avenue, Seattle, Washington

FOR FURTHER INFORMATION CONTACT: Wendy Marshall, EPA, Region 10, Ground Water and Drinking Water Branch, at the EPA address given above, telephone (206) 553–1890.

Dated: July 27, 1993.

Jane S. Moore,

Acting Regional Administrator.

[FR Doc. 93–18576 Filed 8–3–93; 8:45 am]

BILLING CODE [illegible]

[OPPE; FRL–4687–9]

Enhancement of the Pesticide Residues Information System; Availability of Document

AGENCY: Environmental Protection Agency.

ACTION: Notice of availability.

SUMMARY: The document "Enhancement of the Pesticide Residues Information System" is available to the public. This report contains an updated version of pesticide food residue data base published on June 18, 1991 (56 FR 27961). Hard copy and mircofiche copies of the report can be purchased through the National Technical Information Service (NTIS). Electronic searches of the data base may also be purchased. Ordering information is provided.

DOCUMENT DESCRIPTION: The Pesticide Residues Information System (PRIS) was developed by the U.S. Enviornmental Protection Agency's Office of Policy, Planning and Evaluation (OPPE) in 1989. The data base availability was announced in June, 1991. The document made available today is an updated version of the 1991 data base. The current data base contains more than 500,000 analyses for 329 distinct pesticides (and degradates) on over 100,000 food samples. Fresh agricultural commodities comprise approximately 76 percent of the samples, while processed foods comprise 24 percent. Data were obtained from four sources:

(1) Data compiled by Agriculture Canada from various Canadian agencies;

(2) State monitoring data compiled by the Food and Drug Administration's Food Contam program;

(3) Data from member companies compiled by National Food Processors Association; and

(4) Data for private laboratories of Scientific Certification Systems, Inc.

Volume 1 is a description of the data base and includes examples of different uses of PRIS. Volume 2 contains a listing of the data records which have been added to PRIS since the 1991 release. Information on the development of the Oracle software system and electronic searches of the data are available in NTIS publication PB91–154591.

ORDERING INFORMATION: Volume 1 has been assigned the NTIS number PB93–209013. The price is $17.95 ($9.00 for microfiche). Volume 2 has been assigned the NTIS number PB93–209021. The price is $44.50 ($17.50 for microfiche). Orders may be placed by telephone to the NTIS order desk and charged against American Express, VISA, Mastercard, or sent by mail with a check, money order or account number.

ADDRESSES: National Technical Information Services, Attn: Order Desk, 5285 Port Royal Road, Springfield, VA 22161 (703–487–4650).

DATA BASE SEARCHES: For information on procedures for having electronic data base searches carried out, contact Dynamac Corporation (301–417–6126).

FOR FURTHER INFORMATION CONTACT: Joseph C. Reinert, Waste and Chemical Policy Division (PM–220), Office of Policy, Planning and Evaluation, EPA, 401 M St., SW., Washington, DC 20460. Office location and telephone number:

Rm 3224 Waterside Mall, EPA. (202–260–7557).

Dated: July 29, 1993.

Richard Morgenstern,

Director, Office of Policy Analysis.

[FR Doc. 93–18589 Filed 8–3–93; 8:45 am]

BILLING CODE [illegible]

[OPP–00361; FRL–4638–1]

FIFRA Scientific Advisory Panel Subpanel; Open Meeting

AGENCY: Environmental Protection Agency (EPA).

ACTION: Notice of open meeting.

SUMMARY: There will be a 1–day meeting of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Scientific Advisory Panel (SAP) Subpanel to review and comment on the Agency's antimicrobial test methodology research initiatives. The meeting will be open to the public.

DATES: The meeting will be held on Tuesday, August 24, 1993, from 9 a.m. to 4 p.m.

ADDRESSES: The meeting will be held at: Environmental Protection Agency, Office of Pesticide Programs, Rm. 1126, Crystal Mall #2, 1921 Jefferson Davis Highway, Arlington, VA.

FOR FURTHER INFORMATION CONTACT: By mail: Robert B. Jaeger, Designated Federal Official, FIFRA Scientific Advisory Panel (H7509C), Office of Pesticide Programs, Environmental Protection Agency, 401 M St., SW., Washington, DC 20460. Office location and telephone number: Rm. 819B, CM #2, 1921 Jefferson Davis Highway, Arlington, VA (703) 305–5369.

SUPPLEMENTARY INFORMATION: The Agency wants the SAP Subpanel to focus on several specific issues which have arisen during the course of the EPA-funded research on the various test methods. EPA is seeking comments on the water purifier protocol, the tuberculocidal test method research, the sporicidal test method research, the virucidal test method research, the injured cells research, and the statistical analysis.

Copies of documents relating to this review process may be obtained by contacting: By mail: Public Docket and Freedom of Information Section, Field Operations Division (H7506C), Office of Pesticide Programs, Environmental Protection Agency, 401 M St., SW., Washington, DC 20460. Office location and telephone number: Rm. 1128, CM #2, 1921 Jefferson Davis Highway, Arlington, VA (703) 305–5805.

Any member of the public wishing to submit written comments should contact Robert B. Jaeger at the address or telephone number given above to be sure that the meeting is still scheduled and to confirm the Subpanel's agenda. Interested persons are permitted to file written statements before the meeting. To the extent that time permits and upon advance notice to the Designated Federal Official, interested persons may be permitted by the chairman of the Scientific Advisory Panel to present oral statements at the meeting. There is no limit on written comments for consideration by the Subpanel, but oral statements before the Subpanel are limited to approximately 5 minutes. Since oral statements will be permitted only as time permits, the Agency urges the public to submit written comments in lieu of oral presentations.

Information submitted as a comment in response to this notice may be claimed confidential by marking any part or all of that information as "Confidential Business Information" (CBI). Information so marked will not be disclosed except in accordance with procedures set forth in 40 CFR part 2. A copy of the comment that does not contain CBI must be submitted for inclusion in the public docket. Information not marked confidential will be included in the public docket without prior notice. The public docket will be available for public inspection in Rm. 244 Bay at the address given above, from 8 a.m. to 4 p.m., Monday through Friday, excluding legal holidays. All statements will be made a part of the record and will be taken into consideration by the Subpanel.

Persons wishing to make oral and/or written statements should notify the Designated Federal Official and submit 10 copies of a summary no later than August 16, 1993, in order to ensure appropriate consideration by the Subpanel. Copies of the Subpanel's report of their recommendations will be available 5 to 10 working days after the meeting and may be obtained by contacting the Public Docket and Freedom of Information Section at the address or telephone number given above.

Dated: July 26, 1993.

Douglas D. Campt,

Director, Office of Pesticide Programs.

[FR Doc. 93–18353 Filed 8–3–93; 8:45 am]

BILLING CODE [illegible]

[PF–574; FRL–4577–3]

Biologic, Inc., et al.; Filing, Amendments, and a Withdrawal of Pesticide Petitions

AGENCY: Environmental Protection Agency (EPA).

ACTION: Notice.

SUMMARY: EPA announces the filing of a pesticide petition (Biologic, Inc.), the amendment of two pesticide petitions and a food additive petition (E.I. DuPont de Nemours & Co., Inc. and FMC Co.), and the withdrawal of one pesticide petition (American Cyanamid Co.).

ADDRESSES: By mail, submit written comments, identified by the document control number [PF-574], to: Public Response and Program Resources Branch, Field Operations Division (H7506C), Office of Pesticide Programs, Environmental Protection Agency, 401 M St., SW., Washington, DC 20460. In person, bring comments to: Rm. 1128, CM #2, 1921 Jefferson Davis Hwy., Arlington, VA 22202.

Information submitted as a comment concerning this notice may be claimed confidential by marking any part or all of that information as "Confidential Business Information" (CBI). Information so marked will not be disclosed except in accordance with procedures set forth in 40 CFR part 2. A copy of the comment that does not contain CBI must be submitted for inclusion in the public record. Information not marked confidential may be disclosed publicly by EPA without prior notice. All written comments will be available for public inspection in Rm. 1128 at the address given above, from 8 a.m. to 4 p.m., Monday through Friday, excluding legal holidays.

FOR FURTHER INFORMATION CONTACT: By mail: Registration Division (H-7505C), Office of Pesticide Programs, Environmental Protection Agency, 401 M St., SW., Washington, DC 20460. In person, contact the PM named in each petition at the following office location/ telephone number:

Product Manager	Office location/telephone number	Address
Rita Kumar (PM 10)	Rm. 212, CM #2, 703-305-6502	1921 Jefferson Davis Hwy., Arlington, VA.
George LaRocca (PM 13)	Rm. 204, CM #2, 703-305-6100	Do.

SUPPLEMENTARY INFORMATION: EPA has received pesticide petitions and a food additive petition as follows proposing the amendment of regulations for residues of certain pesticide chemicals in or on various agricultural commodities.

Initial Filing of Pesticide Petition

1. *PP 3E4209.* Biologic, Inc., 11 Lake Ave. Extension, Danbury, CT 06811, has submitted to EPA a petition for teflubenzuron technical to establish an import tolerance for various agricultural commodities as follows: cabbage at .4 part per million (ppm); pome fruits at .7 ppm; potatoes at .05 ppm; meat, meat byproducts, fat, kidney, and liver of cattle, goats, hogs, horses, and sheep at .01 ppm; meat, meat byproducts, fat, kidney, and liver of poultry at .05 ppm; eggs at .05 ppm; and milk at .01 ppm. (PM 10)

Amended Pesticide Petitions and Food Additive Petition

2. *PP 4F3120.* E.I. DuPont de Nemours & Co., Inc., Agricultural Products, Walker's Mill, Barley Mill Plaza, P.O. Box 80038, Wilmington, DE 29880-0038, has submitted to EPA a section F amendment to PP 4F3120, which appeared in the **Federal Register** of August 15, 1984 (49 FR 32678). The petition was originally filed by Shell Oil Co. and proposed a tolerance of 0.5 ppm on sugar beets and 10.0 ppm on sugar beet tops. Du Pont's amended petition proposes that tolerances be established for residues of the insecticide (S)-cyano (3-phenoxyphenyl)methyl (S)-4-chloro-alpha-(1-methylethyl)benzeneacetate, the principal isomer, and its enantiomer (R)-cyano(3-phenoxyphenyl)methyl (R)-4-chloro-alpha-(1-methylethyl)benzeneacetate, and its diastereomers, (S)-cyano(3-phenoxyphenyl)methyl (R)-4-chloro-alpha-(1-methylethyl)benzeneacetate, and (R)-cyano(3-phenoxyphenyl)methyl (S)-4-chloro-alpha-(1-methylethyl)benzeneacetate, in or on sugar beet tops at 5.0 parts per million (ppm) and sugar beet roots at 0.5 ppm. (PM 13)

3. *PP 7F3546.* In the **Federal Register** of November 25, 1987 (52 FR 45237), EPA issued notice of the petition filed by FMC Corp., Agricultural Chemical Group, 2000 Market St., Philadelphia, PA 19103, proposing to amend 40 CFR part 180 by establishing a regulation to permit residues of the insecticide bifenthrin (2-methyl[1,1'-biphenyl]-3-yl)methyl-3-(2-chloro-3,3,3-trifluoro-1-propenyl)-2,2-dimethylcyclopropanecarboxylate) and its metabolite, 4'hydroxy in or on corn (field, seed, pop) grain at 0.05 ppm, silage (forage) at 2.0 ppm, stover (fodder) at 4.0 ppm; milk at 0.02 ppm; milk fat at 0.20 ppm; meat at 0.10 ppm, fat at 0.30 ppm, and meat byproducts at 0.10 ppm of goats, hogs, horses, and sheep. FMC Corp. has submitted an amended petition for the chemical that proposes that tolerances for it be established as follows: Corn (field, seed, pop) grain at 0.05 ppm (No detectable residues were found in grain at exaggerated rates, and the proposed tolerance is based on method sensitivity), silage (forage) combined residue of bifenthrin plus 4'-OH bifenthrin at 2.0 ppm, stover (fodder) combined residue of bifenthrin plus 4'-OH bifenthrin at 5.0 ppm; milk, fat at 1.0 ppm (reflecting 0.1 ppm in whole milk); meat of cattle, goats, hogs, horses, and sheep at 0.05 ppm; fat of cattle, goats, hogs, horses, and sheep at 1.0 ppm; and meat byproducts of cattle, goats, hogs, horses, and sheep at 0.10 ppm. The proposed analytical method for determining residues is gas chromatography. (PM 13)

4. *FAP 4H5437.* E.I. DuPont de Nemours & Co., Inc., Agricultural Products, Walker's Mill, Barley Mill Plaza, P.O. Box 80038, Wilmington, DE 29880-0038, has submitted to EPA a section F amendment to food additive petition (FAP) 4H5437, which appeared in the **Federal Register** of August 15, 1984 (49 FR 32678). The petition was originally filed by Shell Oil Co. and proposed a tolerance of 5.0 ppm on sugar beet pulp, dehydrated. Du Pont's amended petition proposes that tolerances be established for residues of the insecticide (S)-cyano (3-phenoxyphenyl)methyl (S)-4-chloro-alpha-(1-methylethyl)benzeneacetate, the principal isomer, and its enantiomer (R)-cyano(3-phenoxyphenyl)methyl (R)-4-chloro-alpha-(1-methylethyl)benzeneacetate, and its diastereomers, (S)-cyano(3-phenoxyphenyl)methyl (R)-4-chloro-alpha-(1-methylethyl)benzeneacetate, and (R)-cyano(3-phenoxyphenyl)methyl (S)-4-chloro-alpha-(1-methylethyl)benzeneacetate, in or on dehydrated sugar beet pulp at 2.5 ppm. (PM 13)

Withdrawal of Pesticide Petition

5. PP 2F2627. The American Cyanamid Co., Agricultural Research Division, P.O. Box 400, Princeton, NJ 08543-0400, has withdrawn without prejudice to future filing the tolerance petition, PP 2F2627, for all cropland for use of Amdro Technical Insecticide. Notice of filing of PP 2F2627 appeared in the **Federal Register** of February 24, 1982 (47 FR 8089). (PM 13)

Authority: 7 U.S.C. 346a and 371.

Dated: July 24, 1993.

Lawrence E. Culleen,

Acting Director, Registration Division, Office of Pesticide Programs.

[FR Doc. 93–18351; Filed 8–3–93; 8:45 am]

BILLING CODE [illegible]

[PP 2G4157/T648; FRL 4633–7]

Entomopathogen; Amendment to Establishment of Exemption from the Requirement of a Tolerance

AGENCY: Environmental Protection Agency (EPA).

ACTION: Notice.

SUMMARY: This notice announces an amendment to an establishment of an exemption from the requirement of a tolerance for residues of the insecticide fungal entomopathogen *Beauvaria bassiana*, Naturalis-L strain, in or on certain raw agricultural commodities.

DATES: This temporary exemption from the requirement of a tolerance expires on January 18, 1994.

FOR FURTHER INFORMATION CONTACT: By mail: Phil Hutton, Product Manager (PM) 18, Registration Division (H7505C) Office of Pesticide Programs, Environmental Protection Agency, 401 M St., SW., Washington, DC 20460. Office location and telephone number: Rm. 213, CM#2, 1921 Jefferson Davis Highway, Arlington, VA, 703–305–7690.

SUPPLEMENTARY INFORMATION: In the **Federal Register** of March 24, 1993 (58 FR 15872), EPA issued a notice that Fermone Corp., Inc., 2620, 37th Drive, Phoenix, AZ 85009, had requested in pesticide petition (PP) 2G4157 the establishment of an exemption from the requirement of a tolerance for residues of the insecticide fungal

entomopathogen *Beauvaria bassiana*, Naturalis-L strain, in or on the following raw agricultural commodities: Cotton seed; peanuts; peanut forage; peanut hay; tomatoes; lettuce; cantaloupe; and lettuce for control of boll weevil, whiteflies and leafhoppers. This document gives notice that Fermone Corp. has amended the petition, (PP) 2G4157, to add the following raw agricultural commodities: cabbage and peppers for control of whiteflies and leafhoppers.

This temporary exemption from the requirement of a tolerance will permit the marketing of the above raw agricultural commodities when treated in accordance with the provisions of experimental use permit 53871–EUP–1, which is being issued under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended (Pub. L. 95–396, 92 Stat. 819; 7 U.S.C. 136).

The scientific data reported and other relevant material were evaluated, and it was determined that the exemption from the requirement of a tolerance will protect the public health. Therefore, the temporary exemption from the requirement of a tolerance has been established on the condition that the pesticide be used in accordance with the experimental use permit and with the following provisions:

1. The total amount of the active ingredient to be used must not exceed the quantity authorized by the experimental use permit.

2. Fermone Corporation, Incorporated, must immediately notify the EPA of any findings from the experimental use permit that have a bearing on safety. The company must also keep records of production, distribution, and performance and on request make the records available to any authorized officer or employee of the EPA or the Food and Drug Administration.

This temporary exemption from the requirement of a tolerance expires on January 18, 1994. Residues remaining in or on the raw agricultural commodities after this expiration date will not be considered actionable if the pesticide is legally applied during the term of, and in accordance with, the provisions of the experimental use permit and temporary exemption from the requirement of tolerance. This temporary exemption from the requirement of a tolerance may be revoked if the experimental use permit is revoked or if any experience with or scientific data on this pesticide indicate that such revocation is necessary to protect the public health.

The Office of Management and Budget has exempted this notice from the requirement of section 3 of Executive Order 12291.

Pursuant to the requirements of the Regulatory Flexibility Act (Pub. L. 96–354, 94 Stat. 1164, 5 U.S.C. 601–612), the Administrator has determined that regulations establishing new tolerances or raising tolerance levels or establishing exemptions from tolerance requirements do not have a significant economic impact on a substantial number of small entities. A certification statement to this effect was published in the Federal Register of May 4, 1981 (46 FR 24950).

Authority: 21 U.S.C. 346a(j).

Dated: July 24, 1993.

Lawrence E. Culleen,

Acting Director, Registration Division, Office of Pesticide Programs.

[FR Doc. 93–18350 Filed 8–3–93; 8:45 am]

BILLING CODE 6560–50–F

[FRL–4687–3]

Proposed Settlement, Clean Air Act Citizen Suit

AGENCY: Environmental Protection Agency (EPA).

ACTION: Notice of proposed settlement; request for public comment.

SUMMARY: In accordance with section 113(g) of the Clean Air Act, as amended ("Act"), notice is hereby given of a proposed partial consent order in the following cases: *Sierra Club* v. *Carol M. Browner*, No. 93–0124 (D.C.D.C.) and *Sierra Club et al.* v. *Carol M. Browner*, No. 93–0125 (D.C.D.C.).

These citizen suits were filed under section 304(a) of the Clean Air Act, 42 U.S.C. 7604, and allege that EPA failed to meet certain mandatory deadlines under title I of the Act, as well as deadlines under the Clean Air Act Amendments of 1990.

This partial consent decree, in conjunction with a partial decree lodged with the court on June 10, 1993 (see 58 FR 35451, July 1, 1993) will resolve all claims arising in these matters.

For a period of thirty (30) days following the date of publication of this notice, the Agency will receive written comments relating to the proposed consent order from persons who were not named as parties or intervenors to the litigation in questions. EPA or the Department of Justice may withhold or withdraw consent to the proposed order if the comments disclose facts or circumstances that indicate that such consent is inappropriate, improper, inadequate, or inconsistent with the requirements of the Act.

A copy of the proposed order has been lodged with the clerk of the United States District Court for the District of Columbia. Copies are also available from Diane Weeks, Air and Radiation Division (LE–132A), Office of General Counsel, U.S. Environmental Protection Agency, 401 M Street, SW., Washington, DC 20460 (202) 260–7620. Written comments should be sent to John T. Hannon, Esq. at the above address and must be submitted on or before September 3, 1992.

Dated: July 28, 1993.

Gerald H. Yamada,

Acting General Counsel.

[FR Doc. 93–18572 Filed 8–3–93; 8:45 am]

BILLING CODE [illegible]

[FRL–4687–2]

Proposed Modification of the NPDES General Permit for the Western Portion of the Outer Continental Shelf (OCS) of the Gulf of Mexico (GMG290000)

AGENCY: Environmental Protection Agency.

ACTION: Notice of Proposed NPDES General Permit Modification.

SUMMARY: EPA Region 6 today proposes to modify the National Pollutant Discharge Elimination System (NPDES) general permit for the Western Portion of the Outer Continental Shelf of the Gulf of Mexico (No. GMG290000) for discharges from existing and new dischargers in the Offshore Subcategory of the Oil and Gas Extraction Point Source Category (40 CFR part 435, subpart A). The existing permit, published at 57 FR 54642 on November 19, 1992 authorized discharges from exploration, development, and production facilities currently in and discharging to Federal waters of the Gulf of Mexico seaward of the outer boundary of the territorial seas off Louisiana and Texas. As proposed, the permit modification addresses recently promulgated Oil and Gas Offshore Subcategory guidelines, permit modification requests from the oil and gas industry, and monitoring requirements now unnecessary.

DATES: Comments must be received by September 3, 1993.

ADDRESSES: Comments should be sent to: Regional Administrator Region 6, U.S. Environmental Protection Agency, 1445 Ross Avenue, Dallas, Texas 75202–2733.

FOR FURTHER INFORMATION CONTACT: Ms. Ellen Caldwell, Region 6, U.S. Environmental Protection Agency, 1445 Ross Avenue, Dallas, Texas 75202–2733.

Telephone: (214) 655–77513. A draft permit including the proposed modifications and/or a fact sheet more fully explaining the proposal may be obtained from Ms. Caldwell. In addition, the Agency's current administrative record on the proposal is available for examination at the Region's Dallas offices during normal working hours after providing Ms. Caldwell 24 hours advance notice.

SUPPLEMENTARY INFORMATION: Pursuant to section 301(a) of the Clean Water Act "CWA", 33 USC 1311(a), discharges of pollutants to waters of the United States, the territorial seas, and the contiguous zone are unlawful except as authorized by a National Pollutant Discharge Elimination System (NPDES) permit issued by EPA (or an approved state) in accordance with CWA section 402, 33 USC 1342. EPA Region 6 issued such a permit for western Gulf of Mexico facilities in the Offshore Subcategory of the Oil and Gas Extraction Category on November 19, 1992 at 57 FR 54642. EPA now proposes various modifications to that permit and solicits comment on them. Only comments on the proposed modifications are solicited.

Offshore Subcategory Guidelines

When it issued the current permit, EPA Region 6 was aware the Agency intended to publish Offshore Subcategory Guidelines (Guidelines) based on the Best Available Technology Economically Achievable (BAT) early in the term of the permit. Rather than delaying permit reissuance until promulgation of the Guidelines, Region 6 based the permit's BAT limitations on its best professional judgment and included a reopener provision in the permit allowing subsequent modification of BAT effluent limitations in the OCS permit that are less stringent than the new Guidelines. On March 4, 1993, EPA published the Guidelines at 58 FR 12453 and they are now effective.

In accordance with the Guidelines, EPA now proposes to decrease oil and grease limits on produced water, prohibit the discharge of produced sand, limit discharges of oil and grease in well treatment, completion and workover fluids to the same limits as exist for produced water, allow a partial toxicity test to measure compliance with the drilling fluid toxicity limit, and require the use of the static sheen test method for monitoring free oil in drilling fluids, drill cuttings, and well treatment, completion, and workover fluids.

Industry Modification Request

After the final permit was signed, oil and gas industry representatives contacted Region 6 contending that the model used by EPA to calculate critical dilution values, CORMIX1, rendered unduly stringent dilution values because it did not accurately account for various conditions under which some Offshore facilities discharge or could discharge produced water. They also provided the Region with new data on produced water discharges demonstrating the existing permit's dilution factors might have unnecessary adverse effects on a significant number of Offshore oil and gas operators.

After examination of the newly available data, EPA Region 6 believes that adjustments in its application of CORMIX1 may be appropriate. Based on changes in dispersion modeling and changes to model input parameters for the density gradient, current speed, discharge pipe orientation, and distance between discharge pipes and the sea floor, EPA Region 6 proposes to modify the permit's table of critical dilutions for compliance testing of produced water. Industry representatives have also requested a permit provision providing an option to use diffusers to achieve greater dilution when facilities are unable to meet the toxicity limits at the proposed critical dilutions. The specifics of such an option have not been included in the proposed permit; however, comments are requested on how a diffuser option might be added to the permit and the necessity of a diffuser option. EPA's preferred option for allowing the use of diffusers is to require permittees wishing to use a diffuser to design it using the CORMIX2 model with similar modifications and input parameters as used in developing the proposed dilution value modification. After installation of such a diffuser, those permittees would be required to demonstrate no chronic toxicity at the dilution modeled using CORMIX2.

In connection with its modification request, the oil and gas industry suggested that EPA should provide a short phase-in period for the modified produced water toxicity limits to enable operators requiring facility improvements for compliance time to make those improvements. EPA is considering issuing either a general administrative compliance order or a number of individual administrative compliance orders to cover such facilities. Each facility requesting coverage under such an order would have to demonstrate it was violating the produced water toxicity limit and describe its plans for coming into compliance with that limit as expeditiously as possible, but no later than within 6 months of the permit's modification. EPA solicits comments on this approach.

EPA also proposes other relatively minor changes to the existing permit's monitoring requirements in response to the modification request. If adopted, those modifications will delete monitoring requirements for gross alpha radiation and gross beta radiation, largely because of test interference caused by high dissolved solids concentrations in produced water. Discharges of source water, source sand, uncontaminated bilge water, and uncontaminated freshwater will be allowed without monitoring for free oil when platforms are unmanned. Also, miscellaneous discharges at the sea floor of blowout preventer fluids, muds, cuttings, and cement will be allowed during times of poor visibility without requiring operators to conduct a static sheen test which cannot be applied to those discharges.

Informational Monitoring

EPA Region 6 also proposes to delete various permit monitoring, record keeping, and reporting requirements intended solely for collecting data in anticipation of developing future permit limitations on a best professional judgment basis. They are volume estimates of well treatment, completion, and workover fluids, deck drainage, and drill cuttings; flow estimates for sanitary waste water; and oil content for muds and cuttings. Publication of the Offshore Guidelines eliminates the need for developing such permit limits.

The proposed produced water critical dilution tables and a summary of all permit limitations and monitoring requirements in the permit, including the proposed changes, are in appendix A of this **Federal Register** notice. As indicated above, additional information is available on request.

Other Legal Requirements

Oil Spill Requirements

Section 311 of the CWA, "the Act", prohibits the discharge of oil and hazardous materials in harmful quantities. Discharges that are in compliance with NPDES permits are excluded from the provisions of section 311. However, the permit does not preclude the institution of legal action or relieve permittees from any responsibilities, liabilities, or penalties for other, unauthorized discharges of oil and hazardous materials which are covered by section 311 of the Act.

Endangered Species Act

The National Marine Fisheries Service (NMFS) and the United States Fish and Wildlife Service (USFWS) have

previously concurred in writing with an EPA finding that issuance of the OCS permit would not adversely affect any threatened or endangered species or its critical habitat. While the proposed changes to the produced water toxicity limits are less stringent at the end of pipe, they continue to prohibit toxicity as modeled at the edge of the mixing zone. Other proposed changes render the permit more stringent. Accordingly, the Region now finds that adoption of the proposed changes is unlikely to adversely affect any threatened or endangered species or its critical habitat. The Region will request written concurrence from NMFS and USFWS on its finding of no adverse affect.

Ocean Discharge Criteria Evaluation

For discharges into waters located seaward of the inner boundary of the territorial seas, CWA section 403 requires that NPDES permits consider guidelines for determining potential degradation of the marine environment. These Ocean Discharge Criteria (40 CFR part 125, subpart M) are intended to "prevent unreasonable degradation of the marine environment and to authorize imposition of effluent limitations, including a prohibition of discharge, if necessary, to ensure this goal" (45 FR 65942, October 3, 1980).

When the Western Gulf of Mexico Outer Continental Shelf general permit was reissued (57 FR 54642 November 19, 1993) EPA determined that discharges in compliance with the permit would not cause unreasonable degradation of the marine environment. Proposed changes to the permit which will make it more stringent include: lower oil and grease limits for produced water, oil and grease limits for well treatment, completion and workover fluids, and prohibition on discharges of produced sand. The only major proposed modifications rendering the permit less stringent are the critical dilutions at which produced water must show no chronic toxicity. These proposed modifications are based on new and more accurate dispersion modeling and information on discharge conditions and will not render the toxicity limit insufficient for its purpose of ensuring no toxicity at the edge of the mixing zone. Because dispersion modeling shows that there will be no toxicity at the edge of the mixing zone, several permit requirements are more stringent than the existing permit, and none of the other permit limits are less stringent than the existing permit, discharges in compliance with this proposed permit modification will not cause unreasonable degradation of the marine environment.

Coastal Zone Management Act

The proposed modified permit is more stringent than the existing OCS General Permit due to the new limits for oil and grease in produced water, and well treatment, completion and workover fluids, the prohibition of discharge of produced sand, and the requirement that permittees use the static sheen test method for monitoring of free oil except deck drainage. The existing permit was determined to be consistent with local and state Coastal Zone Management Plans (CZMP). Since this proposed modified permit is more stringent, EPA has determined that the activities authorized by this proposed permit are consistent with local and state Coastal Zone Management Plans (CZMP). The proposed modified permit and consistency determinations will be submitted to the State of Louisiana for interagency review at the time of public notice.

Marine Protection, Research, and Sanctuaries Act

The Marine Protection, Research and Sanctuaries Act (MPRSA) of 1972 regulates the dumping of all types of materials into ocean waters and establishes a permit program for ocean dumping. In addition the MPRSA establishes Marine Sanctuaries Program, implemented by the National Oceanographic and Atmospheric Administration (NOAA), which requires NOAA to designate ocean waters as marine sanctuaries for the purpose of preserving or restoring their conservation, recreational, ecological or aesthetic values. The Flower Garden Banks has been determined to be a marine sanctuary and is within the area covered under this permit. The permit prohibits discharge in areas of biological concern, including marine sanctuaries, and none of the proposed modifications will affect that prohibition.

State Water Quality Standards and State Certification

Because state waters are not included in the area covered by this NPDES general permit, no state waters are affected by the discharges it authorizes. Thus, the state water quality certification provisions of CWA section 401 do not apply to the permit or proposed modification.

Executive Order 12291

The Office of Management and Budget (OMB) has exempted this action from the review requirements of Executive Order 12291 pursuant to section 8(b) of that order. It should be noted, however, that EPA in fact prepared a regulatory impact analysis in connection with its promulgation of the Guidelines and submitted it to the OMB and included it in the public review. See 58 FR 12492. Each of the proposed permit modifications which will increase industry compliance costs was considered in that regulatory impact analysis and review.

Paperwork Reduction Act

The information collection required by this permit has been approved by the Office of Management and Budget (OMB) under the provisions of the Paperwork Reduction Act, 44 U.S.C. 3501 *et seq.*, in submission made for the NPDES permit program and assigned OMB control numbers 2040–0086 (NPDES permit application) and 2040–0004 (discharge monitoring reports).

The existing Gulf of Mexico Outer Continental Shelf (OCS) general permit (GMG290000) requires regulated facilities to submit a notice of intent to be covered and submit discharge monitoring reports to EPA. When it issued the permit, EPA estimated it would take an affected facility three hours to prepare the request for coverage and 38 hours per year to prepare discharge monitoring reports. The proposed modifications will not increase these burdens.

Regulatory Flexibility Act

The Regulatory Flexibility Act, 5 U.S.C. 601 *et seq*, requires that EPA prepare a regulatory flexibility analysis for regulations that have a significant impact on a substantial number of small entities. In promulgating the Guidelines, EPA prepared an economic impact analysis showing they would directly impact no small entities. See 58 FR 12492. Based on those findings, EPA Region 6 certifies, pursuant to the provisions of 5 U.S.C. 605(b), that the permit modifications proposed today will not have a significant impact on a substantial number of small entities.

Dated: July 26, 1993.

Myron O. Knudson,

Director, Water Management Division, Region 6.

APPENDIX A.—TABLE 1 (SHEET 1 OF 5): PRODUCED WATER CRITICAL DILUTION (PERCENT EFFLUENT) DEPTH DIFFERENCE BETWEEN DISCHARGE PIPE AND SEA FLOOR 0 TO 4 METERS

Discharge rate (bbl/day)	Pipe diameter						
	> 0" to 3"	> 3" to 5"	> 5" to 7"	> 7" to 9"	> 9" to 11"	> 11" to 16"	> 16"
0 to 500	0.17	0.17	0.17	0.17	0.17	0.17	0.04
501 to 1,000	0.45	0.40	0.40	0.40	0.40	0.40	0.08
1,001 to 2,000	1.39	1.08	1.08	1.08	1.08	1.08	0.16
2,001 to 3,000	1.66	1.39	1.32	1.32	1.32	1.32	1.32
3,001 to 4,000	1.97	1.60	1.45	1.45	1.45	1.45	1.45
4,001 to 5,000	1.94	1.77	1.55	1.55	1.55	1.55	1.55
5,001 to 6,000	1.90	1.93	1.66	1.63	1.63	1.63	1.63
6,001 to 7,000	1.86	2.07	1.78	1.70	1.70	1.70	1.70
7,001 to 8,000	1.81	2.20	1.89	1.76	1.76	1.76	1.76
8,001 to 9,000	1.77	2.32	1.99	1.81	1.81	1.81	1.81
9,001 to 10,000	1.73	2.43	2.08	1.86	1.86	1.86	1.86
10,001 to 15,000	1.56	2.64	2.49	2.16	2.03	2.03	2.03
15,001 to 20,000	1.43	2.49	2.85	2.47	2.17	2.17	2.17
20,001 and above	1.34	2.39	3.13	2.75	2.42	2.29	2.29

TABLE 1.—(SHEET 2 OF 5): PRODUCED WATER CRITICAL DILUTION (PERCENT EFFLUENT) DEPTH DIFFERENCE BETWEEN DISCHARGE PIPE AND SEA FLOOR GREATER THAN 4 METERS TO 6 METERS

Discharge rate (bbl/day)	Pipe diameter						
	> 0" to 3"	> 3" to 5"	> 5" to 7"	> 7" to 9"	> 9" to 11"	> 11" to 16"	> 16"
0 to 500	0.04	0.04	0.04	0.04	0.04	0.04	0.04
501 to 1,000	0.16	0.15	0.15	0.15	0.15	0.15	0.05
1,001 to 2,000	0.42	0.37	0.37	0.37	0.37	0.37	0.10
2,001 to 3,000	0.80	0.68	0.65	0.65	0.65	0.65	0.15
3,001 to 4,000	1.40	1.15	1.04	1.04	1.04	1.04	0.19
4,001 to 5,000	1.05	0.94	0.86	0.86	0.86	0.86	0.86
5,001 to 6,000	1.15	1.02	0.93	0.92	0.92	0.92	0.92
6,001 to 7,000	1.22	1.10	1.00	0.97	0.97	0.97	0.97
7,001 to 8,000	1.21	1.17	1.06	1.01	1.01	1.01	1.01
8,001 to 9,000	1.19	1.24	1.12	1.05	1.05	1.05	1.05
9,001 to 10,000	1.17	1.30	1.17	1.09	1.09	1.09	1.09
10,001 to 15,000	1.09	1.56	1.41	1.28	1.23	1.23	1.23
15,001 to 20,000	1.02	1.75	1.59	1.45	1.33	1.33	1.33
20,001 and above	0.96	1.69	1.76	1.59	1.46	1.40	1.40

TABLE 1.—(SHEET 3 OF 5): PRODUCED WATER CRITICAL DILUTION (PERCENT EFFLUENT) DEPTH DIFFERENCE BETWEEN DISCHARGE PIPE AND SEA FLOOR GREATER THAN 6 METERS TO 8 METERS

Discharge rate (bbl/day)	Pipe diameter						
	> 0" to 3"	> 3" to 5"	> 5" to 7"	> 7" to 9"	> 9" to 11"	> 11" to 16"	> 16"
0 to 500	0.04	0.04	0.04	0.04	0.04	0.04	0.04
501 to 1,000	0.07	0.07	0.07	0.07	0.07	0.07	0.07
1,001 to 2,000	0.20	0.18	0.18	0.18	0.18	0.18	0.07
2,001 to 3,000	0.35	0.32	0.31	0.31	0.31	0.31	0.10
3,001 to 4,000	0.56	0.50	0.46	0.46	0.46	0.46	0.13
4,001 to 5,000	0.85	0.74	0.67	0.67	0.67	0.67	0.17
5,001 to 6,000	1.26	1.08	0.95	0.94	0.94	0.94	0.20
6,001 to 7,000	0.78	0.71	0.66	0.65	0.65	0.65	0.65
7,001 to 8,000	0.83	0.76	0.70	0.68	0.68	0.68	0.68
8,001 to 9,000	0.89	0.80	0.74	0.71	0.71	0.71	0.71
9,001 to 10,000	0.89	0.84	0.78	0.74	0.74	0.74	0.74
10,001 to 15,000	0.84	1.01	0.94	0.87	0.85	0.85	0.85
15,001 to 20,000	0.80	1.15	1.07	0.99	0.93	0.93	0.93
20,001 and above	0.76	1.32	1.18	1.09	1.02	0.99	0.99

TABLE 1.—(SHEET 4 OF 5): PRODUCED WATER CRITICAL DILUTION (PERCENT EFFLUENT) DEPTH DIFFERENCE BETWEEN DISCHARGE PIPE AND SEA FLOOR GREATER THAN 8 METERS TO 12 METERS

Discharge rate (bbl/day)	Pipe diameter						
	> 0" to 3"	> 3" to 5"	> 5" to 7"	> 7" to 9"	> 9" to 11"	> 11" to 16"	> 16"
0 to 500	0.04	0.04	0.04	0.04	0.04	0.04	0.04
501 to 1,000	0.07	0.07	0.07	0.07	0.07	0.07	0.07
1,001 to 2,000	0.11	0.10	0.10	0.10	0.10	0.10	0.10
2,001 to 3,000	0.14	0.13	0.13	0.13	0.13	0.13	0.13
3,001 to 4,000	0.17	0.16	0.16	0.16	0.16	0.16	0.16
4,001 to 5,000	0.33	0.31	0.29	0.29	0.29	0.29	0.11
5,001 to 6,000	0.45	0.41	0.38	0.38	0.38	0.38	0.13
6,001 to 7,000	0.61	0.55	0.50	0.49	0.49	0.49	0.15
7,001 to 8,000	0.80	0.72	0.65	0.63	0.63	0.63	0.17
8,001 to 9,000	1.06	0.94	0.85	0.80	0.80	0.80	0.19
9,001 to 10,000	0.56	0.52	0.50	0.48	0.48	0.48	0.48
10,001 to 15,000	0.63	0.63	0.60	0.57	0.56	0.56	0.56
15,001 to 20,000	0.61	0.72	0.68	0.65	0.62	0.62	0.62
20,001 and above	0.58	0.80	0.75	0.72	0.68	0.66	0.66

TABLE 1.—(SHEET 5 OF 5): PRODUCED WATER CRITICAL DILUTION (PERCENT EFFLUENT) DEPTH DIFFERENCE BETWEEN DISCHARGE PIPE AND SEA FLOOR GREATER THAN 12 METERS

Discharge rate (bbl/day)	Pipe diameter						
	> 0" to 3"	> 3" to 5"	> 5" to 7"	> 7" to 9"	> 9" to 11"	> 11" to 16"	> 16"
to 500	0.04	0.04	0.04	0.04	0.04	0.04	0.04
501 to 1,000	0.07	0.07	0.07	0.07	0.07	0.07	0.07
1,001 to 2,000	0.11	0.10	0.10	0.10	0.10	0.10	0.10
2,001 to 3,000	0.14	0.13	0.13	0.13	0.13	0.13	0.13
3,001 to 4,000	0.17	0.16	0.16	0.16	0.16	0.16	0.16
4,001 to 5,000	0.21	0.20	0.19	0.19	0.19	0.19	0.19
5,001 to 6,000	0.24	0.23	0.22	0.22	0.22	0.22	0.22
6,001 to 7,000	0.28	0.26	0.25	0.25	0.25	0.25	0.25
7,001 to 8,000	0.32	0.30	0.29	0.28	0.28	0.28	0.28
8,001 to 9,000	0.36	0.34	0.32	0.31	0.31	0.31	0.31
9,001 to 10,000	0.41	0.38	0.36	0.35	0.35	0.35	0.35
10,001 to 15,000	0.28	0.84	0.83	0.81	0.80	0.80	0.80
15,001 to 20,000	0.31	1.01	0.99	0.97	0.67	0.67	0.67
20,001 and above	1.07	1.15	1.13	1.11	1.09	1.08	1.08

TABLE 2.—EFFLUENT LIMITATIONS, PROHIBITIONS AND MONITORING REQUIREMENTS

Discharge	Regulated and monitored discharged parameter	Discharge limitation/prohibition	Monitoring requirement		
			Measurement frequency	Sample type/method	Recorded value(s)
Drilling Fluid	Free Oil	No free oil	Once week [1]	Static sheen	Number of days sheen observed.
	Toxicity [2] 96-hr LC50	30,000 ppm daily minimum.	Once/month	Grab	96-hr LC50.
			Once/end of well [3].	Grab	96-hr LC50.
		30,000 ppm monthly average minimum.	Once/month	Grab	96-hr LC50.
	Discharge Rate	1,000 barrels/hour	Once/hour [1]	Estimate	Max. hourly rate.
	Discharge Rate for controlled discharge rate areas [4].	(see Figure 1)	Once/hour [1]	Measure	Max. hourly rate.
	Mercury and cadmium	No discharge of drilling fluids to which barite has been added, if such barite contains mercury in excess of 1.0 mg/kg or cadmium in excess of 3.0 mg/kg (dry weight).	Once prior to drilling each well [5].	Absorption Spectro-photometry	mg mercury/kg barite. mg cadmium/kg barite.

TABLE 2.—EFFLUENT LIMITATIONS, PROHIBITIONS AND MONITORING REQUIREMENTS—Continued

Discharge	Regulated and monitored discharged parameter	Discharge limitation/prohibition	Monitoring requirement		
			Measurement frequency	Sample type/ method	Recorded value(s)
	Oil Based or Inverse Emulsion Drilling Fluids.	No discharge.			
	Oil Contaminated Drilling Fluids.	No discharge.			
	Diesel Oil	No discharge of drilling fluids to which diesel oil has been added.			
	Mineral Oil	Mineral oil may be used only as a carrier fluid (transporter fluid), lubricity additive, or pill.			
Drilling Cuttings	Free oil	No free oil	Once/week [1]	Static sheen	Number of days sheen observed.
	Toxicity [2] 96-hr LC50	30,000 ppm daily minimum.	Once/month	Grab	96-hr LC50.
			Once/end of well [3].	Grab	96-hr LC50.
		30,000 ppm monthly average minimum.	Once/month	Grab	96-hr LC50.
	Mercury and cadmium	No discharge of cuttings generated using drilling fluids to which barite has been added, if such barite contains mercury in excess of 1.0 mg/kg or cadmium in excess of 3.0 mg/kg (dry weight).	Once prior to drilling each well [6].	Absorption Spectro-photometry	mg mercury/kg barite. mg cadmium/kg barite.
	Cuttings generated using Oil Based or Inverse Emulsion Drilling Fluids.	No discharge.			
	Cuttings generated using Oil Contaminated Drilling Fluids.	No discharge.			
	Cuttings generated using drilling fluids to which Diesel Oil has been added.	No discharge.			
	Cuttings generated using drilling fluids to which Mineral Oil has been added.	Mineral oil may be used only as a carrier fluid (transporter fluid), lubricity additive, or pill.			
Deck Drainage	Free Oil	No free oil	Once/day [7]	Visual sheen	Number of days sheen observed.
Produced Water	Oil and grease	42 mg/l daily max., 29 mg/l monthly average.	Once/month	Grab [8]	Daily max., monthly average.
	Toxicity	7-day average min. NOEC [9] and monthly average min. NOEC [9].	Rate Dependent [16].	Grab	Lowest NOEC for either of the two species.
	Radium 226 and 228	Monitor	Rate Dependent [16].	Grab	pCi/liter.
	Bioaccumulation [18].				
	Flow (MGD)		Once/month	Estimate	Monthly Average.
Produced Sand	No Discharge.				
Well treatment fluids [10], completion fluids [10], and workover fluids [10] (includes packer fluids).	Free oil	No free oil	Once/day [1]	Static sheen	Number of days sheen observed.
	Oil & Grease	42 mg/l daily max., 29 mg/l monthly avg	Once/month	Grab [8]	Daily max., monthly average.

TABLE 2.—EFFLUENT LIMITATIONS, PROHIBITIONS AND MONITORING REQUIREMENTS—Continued

Discharge	Regulated and monitored discharged parameter	Discharge limitation/prohibition	Monitoring requirement		
			Measurement frequency	Sample type/method	Recorded value(s)
Sanitary waste[12] continuously manned by 10 or more persons.	Residual chlorine[13]	1 mg/l (minimum)	Once/month	Grab	Concentration.
	Solids	No Floating Solids	Once/day	Observation	Number of days solids observed.
Sanitary waste[12] continuously manned by 9 or fewer persons or intermittently by any number.	Solids	No floating solids	Once/day	Observation	Number of days solids observed.
Domestic waste[14]	Solids	No floating solids or foam.	Once/day	Observation[15] ..	Number of days observed.
Miscellaneous discharges: Desalinization unit discharge; blowout pre-venter fluid; uncontaminated ballast water; uncontaminated bilge water; uncontaminated freshwater; mud, cuttings and cement at seafloor; uncontaminated seawater; boiler blowdown; source water and sand; diatomaceous earth filter media; excess cement slurry.	Free oil	No free oil	Once/week[11]	Visual sheen	Number of days sheen observed.

[1] When discharging.
[2] Suspended particulate phase (SPP) with *Mysidopsis bahia* following approved test method. The sample shall be taken beneath the shale shaker; or if there are no returns across the shaker then the sample must be taken from a location that is characteristic of the overall mud system to be discharged.
[3] Sample shall be taken after the final log run is completed and prior to bulk discharge.
[4] See Appendix A, Discharge Rate Graph.
[5] This information shall be recorded but not reported unless otherwise requested by EPA.
[6] Analyses shall be conducted on each new stock of barite used.
[7] When discharging and facility is manned. Monitoring shall be accomplished during times when observation of a visual sheen on the surface of the receiving water is possible in the vicinity of the discharge.
[8] May be based on the arithmetic average of four grab sample results in the 24 hr. period.
[9] See Table 1, Appendix A.
[10] No discharge of priority pollutants except in trace amounts. Information on the specific chemical composition shall be recorded but not reported unless requested by EPA.
[11] When discharging for muds, cuttings, and cement at the seafloor and blowout preventer fluid. All other miscellaneous discharges: when discharging, discharge is authorized only during times when visual sheen observation is possible, unless the static sheen method is used. Uncontaminated seawater uncontaminated freshwater, source water and source sand, uncontaminated bilge water, and uncontaminated ballast water from platforms on automatic purge systems may be discharged without monitoring from platforms which are not manned.
[12] Any facility which properly operates and maintains a marine sanitation device (MSD) that complies with pollution control standards and regulations under section 312 of the Act shall be deemed to be in compliance with permit limitations for sanitary waste. The MSD shall be tested yearly for proper operation, and test results maintained at the facility.
[13] Hach method CN–66 DPD approved. Minimum of 1 mg/l and maintained as close to this concentration as possible.
[14] The discharge of food waste is prohibited within 12 nautical miles from nearest land. Comminuted food waste able to pass through a 25 mm mesh screen (approximately 1 inch) may be discharged more than 12 nautical miles from nearest land.
[15] Monitoring shall be accomplished during daylight by visual observation of the surface of the receiving water in the vicinity of sanitary and domestic waste outfalls. Observations shall be made following either the morning or midday meals at a time of maximum estimated discharge.
[16] Once/year for discharges from 0 bbl/day to 499 bbl/day, once/quarter for discharges from 500 bbl/day to 4,599 bbl/day, and once/month for discharges of 4,600 bbl/day and greater.
[17] See Part I.B.4.(b) of this Permit

[FR Doc. 93–18570 Filed 8–3–93; 8:45 am]
BILLING CODE 6560-50-P

FEDERAL MARITIME COMMISSION

Ocean Freight Forwarder License; Revocations

Notice is hereby given that the following ocean freight forwarder licenses have been revoked by the Federal Maritime Commission pursuant to section 19 of the Shipping Act of 1984 (46 U.S.C. app. 1718) and the regulations of the Commission pertaining to the licensing of ocean freight forwarders, 46 CFR part 510.

License Number: 3485
Name: John R. Soares & Co.
Address: 2227 So. Garnett, Ste. 109, Tulsa, OK 74129
Date Revoked: June 25, 1993
Reason: Surrendered license voluntarily.

License Number: 3284
Name: Sonco International Corporation
Address: 4920 S. Lewis, #110, Tulsa, OK 74105
Date Revoked: July 10, 1993
Reason: Failed to maintain a valid surety bond.

Bryant L. VanBrakle,
Director, Bureau of Tariffs, Certification and Licensing.

[FR Doc. 93–18529 Filed 8–3–93; 8:45 am]
BILLING CODE 6730-01-M

Agreement(s) Filed; Trans-Atlantic Agreement

The Federal Maritime Commission hereby gives notice of the filing of the following agreement(s) pursuant to section 5 of the Shipping Act of 1984.

Interested parties may inspect and obtain a copy of each agreement at the

Washington, DC Office of the Federal Maritime Commission, 800 North Capitol Street, NW., 9th Floor. Interested parties may submit comments on each agreement to the Secretary, Federal Maritime Commission, Washington, DC 20573, within 10 days after the date of the **Federal Register** in which this notice appears. The requirements for comments are found in § 572.603 of title 46 of the Code of Federal Regulations. Interested persons should consult this section before communicating with the Commission regarding a pending agreement.

Agreement No.: 202–011375–009.
Title: Trans-Atlantic Agreement
Parties:

Atlantic Container Line
Cho Yang Shipping Co.
Sea-Land Service, Co.
A.P. Moller-Maersk Line
Nedlloyd Lijnen BV
Hapag Lloyd AG
Mediterranean Shipping Co.
DSR-Senator Joint Service
Polish Ocean Lines
Orient Overseas Container Line (UK) Ltd.
Transportation Maritima Mexicana, S.A. de C.V.
Tecomar S.A. de C.V.
P&O Container Limited
Nippon Yusen Kaisha
Neptune Orient Lines Ltd.

Synopsis: The proposed amendment would expand the functions of the Market Survey Committee.

Dated: July 30, 1993.

By Order of the Federal Maritime Commission.

Ronald D. Murphy,

Assistant Secretary.

[FR Doc. 93–18590 Filed 8–3–93; 8:45 am]

BILLING CODE 6730–01–M

Agreement(s) Filed; Tampa Bay Port Authority/Tampa Bay International Terminals, Inc.

The Federal Maritime Commission hereby gives notice that the following agreement(s) has been filed with the Commission for approval pursuant to section 15 of the Shipping Act, 1916, as amended (39 Stat. 75 Stat. 763, 46 U.S.C. § 814).

Interested parties may inspect and may request a copy of each agreement and the supporting statement at the Washington, DC office of the Federal Maritime Commission, 1100 L Street NW., room 10325. Interested parties may submit protests or comments on each agreement to the Secretary, Federal Maritime Commission, Washington, DC 20573, within 10 days after the date of the **Federal Register** in which this notice appears. The requirements for comments and protests are found in § 560.7 of title 46 of the Code of Federal Regulations. Interested persons should consult this section before communicating with the Commission regarding a pending agreement.

Any person filing a comment or protest with the Commission shall, at the same time, deliver a copy of that document to the person filing the agreement at the address shown below.

Agreement No.: 224–200792.
Title: Tampa Bay Port Authority/Bay International Terminals, Inc. Domestic Inbound Incentive Iron or Steel Articles Wharfage Agreement
Parties:

Tampa Bay Port Authority ("Port")
Tampa Bay International Terminals, Inc.

Filing Agent: Harold E. Welch, Registered Practitioner, Tampa Port Authority, P.O. Box 2192, Tampa, Florida 3360.

Synopsis: The Agreement provides for the Port to assess an incentive wharfage rate of $1.00 per net ton on domestic inbound iron or steel articles subject to a minimum annual volume of 1,000 net tons.

Dated: July 30, 1993.

By Order of the Federal Maritime Commission.

Ronald D. Murphy,

Assistant Secretary.

[FR Doc. 93–18591 Filed 8–30–93; 8:45 am]

BILLING CODE 6730–01–M

[C.O. 1, Amdt. No. 23]

Organization and Functions of the Federal Maritime Commission

The following delegation is made to the Director, Bureau of Tariffs, Certification and Licensing, by amending Commission Order 1, Section 9, as revised, Specific Authorities Delegated to the Director, Bureau of Tariffs, Certification and Licensing by adding subsection 9.19 to read as follows:

9.19 Authority contained in 46 CFR 514.8(d)(4)(ii) to approve minor changes and additions to transaction set data for the ATFI system. Such minor changes include additions to any of the following term and reference lists: Cities; States and provinces; Countries; Ports; Container sizes; Container types; Container temperatures; Hazard codes; Inland modes, Packaging types, Rate Bases; Service types; Stuffing mode; Stripping mode; and Currencies.

Dated: July 29, 1993.

William D. Hathaway,

Chairman.

[FR Doc. 93–18592 Filed 8–3–93; 8:45 am]

BILLING CODE 6730–01–M

FEDERAL RESERVE SYSTEM

Griggsville Bancshares, Inc.; Formation of, Acquisition by, or Merger of Bank Holding Companies

The company listed in this notice has applied for the Board's approval under section 3 of the Bank Holding Company Act (12 U.S.C. 1842) and § 225.14 of the Board's Regulation Y (12 CFR 225.14) to become a bank holding company or to acquire a bank or bank holding company. The factors that are considered in acting on the applications are set forth in section 3(c) of the Act (12 U.S.C. 1842(c)).

The application is available for immediate inspection at the Federal Reserve Bank indicated. Once the application has been accepted for processing, it will also be available for inspection at the offices of the Board of Governors. Interested persons may express their views in writing to the Reserve Bank indicated for that application or to the offices of the Board of Governors. Any comment on an application that requests a hearing must include a statement of why a written presentation would not suffice in lieu of a hearing, identifying specifically any questions of fact that are in dispute and summarizing the evidence that would be presented at a hearing.

Comments regarding this application must be received not later than August 27, 1993.

A. Federal Reserve Bank of St. Louis (Randall C. Sumner, Vice President) 411 Locust Street, St. Louis, Missouri 63166:

1. Griggsville Bancshares, Inc., Griggsville, Illinois; to become a bank holding company by acquiring 100 percent of the voting shares of Farmers National Bank of Griggsville, Griggsville, Illinois.

Board of Governors of the Federal Reserve System, July 29, 1993.

Jennifer J. Johnson,

Associate Secretary of the Board.

[FR Doc. 93–18545 Filed 8–3–93; 8:45 am]

BILLING CODE 6210–01–F

Hallmark Capital Corp.; Formation of, Acquisition by, or Merger of Bank Holding Companies; and Acquisition of Nonbanking Company

The company listed in this notice has applied under § 225.14 of the Board's

Regulation Y (12 CFR 225.14) for the Board's approval under section 3 of the Bank Holding Company Act (12 U.S.C. 1842) to become a bank holding company or to acquire voting securities of a bank or bank holding company. The listed company has also applied under § 225.23(a)(2) of Regulation Y (12 CFR 225.23(a)(2)) for the Board's approval under section 4(c)(8) of the Bank Holding Company Act (12 U.S.C. 1843(c)(8)) and § 225.21(a) of Regulation Y (12 CFR 225.21(a)) to acquire or control voting securities or assets of a company engaged in a nonbanking activity that is listed in § 225.25 of Regulation Y as closely related to banking and permissible for bank holding companies, or to engage in such an activity. Unless otherwise noted, these activities will be conducted throughout the United States.

The application is available for immediate inspection at the Federal Reserve Bank indicated. Once the application has been accepted for processing, it will also be available for inspection at the offices of the Board of Governors. Interested persons may express their views in writing on the question whether consummation of the proposal can "reasonably be expected to produce benefits to the public, such as greater convenience, increased competition, or gains in efficiency, that outweigh possible adverse effects, such as undue concentration of resources, decreased or unfair competition, conflicts of interests, or unsound banking practices." Any request for a hearing on this question must be accompanied by a statement of the reasons a written presentation would not suffice in lieu of a hearing, identifying specifically any questions of fact that are in dispute, summarizing the evidence that would be presented at a hearing, and indicating how the party commenting would be aggrieved by approval of the proposal.

Comments regarding the application must be received at the Reserve Bank indicated or the offices of the Board of Governors not later than August 27, 1993.

A. Federal Reserve Bank of Chicago (James A. Bluemle, Vice President) 230 South LaSalle Street, Chicago, Illinois 60690:

1. Hallmark Capital Corp., West Allis, Wisconsin; to become a bank holding company by acquiring 100 percent of the voting shares of West Allis Savings Bank, West Allis, Wisconsin.

In connection with this application, Applicant also proposes to engage *de novo* in making, acquiring, or servicing loans or other extensions of credit pursuant to § 225.25(b)(1) of the Board's Regulation Y.

Board of Governors of the Federal Reserve System, July 29, 1993.

Jennifer J. Johnson,

Associate Secretary of the Board.

[FR Doc. 93–18546 Filed 8–3–93; 8:45 am]

BILLING CODE [illegible]

Magnolia State Corporation; Notice of Application to Engage de novo in Permissible Nonbanking Activities

The company listed in this notice has filed an application under § 225.23(a)(1) of the Board's Regulation Y (12 CFR 225.23(a)(1)) for the Board's approval under section 4(c)(8) of the Bank Holding Company Act (12 U.S.C. 1843(c)(8)) and § 225.21(a) of Regulation Y (12 CFR 225.21(a)) to commence or to engage *de novo*, either directly or through a subsidiary, in a nonbanking activity that is listed in § 225.25 of Regulation Y as closely related to banking and permissible for bank holding companies. Unless otherwise noted, such activities will be conducted throughout the United States.

The application is available for immediate inspection at the Federal Reserve Bank indicated. Once the application has been accepted for processing, it will also be available for inspection at the offices of the Board of Governors. Interested persons may express their views in writing on the question whether consummation of the proposal can "reasonably be expected to produce benefits to the public, such as greater convenience, increased competition, or gains in efficiency, that outweigh possible adverse effects, such as undue concentration of resources, decreased or unfair competition, conflicts of interests, or unsound banking practices." Any request for a hearing on this question must be accompanied by a statement of the reasons a written presentation would not suffice in lieu of a hearing, identifying specifically any questions of fact that are in dispute, summarizing the evidence that would be presented at a hearing, and indicating how the party commenting would be aggrieved by approval of the proposal.

Comments regarding the application must be received at the Reserve Bank indicated or the offices of the Board of Governors not later than August 24, 1993.

A. Federal Reserve Bank of Atlanta (Zane R. Kelley, Vice President) 104 Marietta Street, N.W., Atlanta, Georgia 30303:

1. Magnolia State Corporation, Bay Springs, Mississippi; to engage *de novo* through its subsidiary, Jones County Finance Co., Laurel, Mississippi, in making, acquiring or servicing loans or other extensions of credit pursuant to § 225.25(b)(1) of the Board's Regulation Y.

Board of Governors of the Federal Reserve System, July 29, 1993.

Jennifer J. Johnson,

Associate Secretary of the Board.

[FR Doc. 93–18547 Filed 8–3–93; 8:45 am]

BILLING CODE [illegible]

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Centers for Disease Control and Prevention

[Program Announcement Number 358]

Occupationally Related Tuberculosis and Tuberculous Infection in Health-Care Workers; Notice of Availability of Funds for Fiscal Year 1993

Introduction

The Centers for Disease Control and Prevention (CDC) announces the availability of fiscal year (FY) 1993 funds for cooperative agreements with health-care facilities for developing model programs based on the most current CDC guidelines for the prevention of the transmission of tuberculosis to and among health-care workers.

The Public Health Service (PHS) is committed to achieving the health promotion and disease prevention objectives of Healthy People 2000, a PHS-led national activity to reduce morbidity and mortality and improve the quality of life. This announcement is related to the priority area of Occupational Safety and Health. (For ordering a copy of Healthy People 2000 see the section Where to Obtain Additional Information.)

Authority

This program is authorized under Section 20(a) of the Occupational Safety and Health Act of 1970 [29 U.S.C. 669(a)] and the Public Health Service Act, sections 301(a) and 317, [42 U.S.C. 241(a) and 247b], as amended.

Eligible Applicants

Eligible applicants include health-care facilities treating patients with active tuberculosis, local and state health departments, or universities with close working relationships with full service hospitals treating patients with active tuberculosis. Because this cooperative agreement is directed at

preventing the transmission of tuberculosis to and among health-care workers and, in so doing, may require changes in their work procedures, applicants will be limited to those who may affect changes in work-practice policy.

Availability of Funds

Approximately $215,000 is available in FY 1993 to fund 2 to 4 awards. It is expected that the average award will be $53,000, ranging from $40,000 to $115,000. It is expected the awards will begin on or about September 30, 1993, and will be made for a 12-month budget period within a project period up to 5 years. Funding estimates may vary and are subject to change.

Continuation awards within the project period will be made on the basis of satisfactory progress and the availability of funds.

Purpose

The purpose of these cooperative agreements is to assist recipient health-care organizations in developing model programs which will protect the health of affected workers through the identification of activities and procedures to prevent the transmission of tuberculosis in the workplace. The focus of those programs will be to increase the compliance of health-care facilities and health-care workers with the most current CDC guidelines for prevention of tuberculosis in health-care settings.

The specific objective of these cooperative agreements is to develop program models for the prevention of transmission of tuberculosis among health-care workers through the optimal and practical application of protective guidelines and related strategies.

Program Requirements

In conducting activities to achieve the purpose of this program, the recipient shall be responsible for the activities under A., below, and CDC/NIOSH shall be responsible for conducting activities under B., below:

A. Recipient Activities

1. Determine the extent to which selected health-care facilities have adopted the 1990 (or most recent) guidelines and/or other approaches in their efforts to prevent TB transmission.

2. Monitor implementation of the 1990 guidelines and to define specific obstacles to full implementation encountered at these selected facilities.

3. Periodically monitor TB skin test conversion rates and new TB cases for various categories of health-care workers in these selected facilities over the anticipated 3- to 5-year period of this project.

4. Evaluate the change over time in TB skin test conversion rates and new TB cases for health-care workers in these selected facilities with respect to level of implementation of the 1990 guidelines over the anticipated 3- to 5-year period of the project.

5. Evaluate the effectiveness of various TB transmission control methods (or combinations of methods) in preventing the transmission of TB in health-care workers.

6. Develop, implement, and evaluate strategies to maximize compliance with the current CDC guidelines.

7. Document ability to affect changes in work-practice policies.

B. CDC/NIOSH Activities

1. Provide scientific, epidemiologic, engineering, environmental, and clinical technical assistance (as needed) to the recipient for successful completion of this project.

2. Collaborate with recipient on the methods for the collection, tabulation analysis, and publication of data related to the project.

3. Assist in the development of the overall plan or study design for this project.

4. Assist in the design and implementation of the evaluation plan for the project.

5. Coordinate the training of the appropriate grantee staff in technical and scientific procedures necessary for the successful completion of the project.

Evaluation Criteria

The application will be reviewed and evaluated according to the following criteria:

1. Responsiveness to the objective of the cooperative agreement including: (a) applicant's understanding of the objective of the proposed cooperative agreement and, (b) the relevance of the proposal to the objective. (20%)

2. Applicant's ability to provide the staff, knowledge, and other resources required to perform the applicant's responsibilities in this project, and to describe the approach to be used in carrying out those responsibilities. (20%)

3. Steps proposed in planning and implementing this project, and the respective responsibilities of the applicant for carrying out those steps. (20%)

4. Schedule proposed for accomplishing the activities to be carried out in this project and for evaluating the accomplishments. (20%)

5. Qualification and time allocation of the professional staff to be assigned to this project and the facilities, equipment, and other resources available for performance of this project. (20%)

6. The budget will be evaluated to the extent that it is reasonable, clearly justified, and consistent with the intended use of funds. (Not Scored)

Executive Order 12372 Review

The applications are subject to Intergovernmental Review of Federal Programs as governed by Executive Order 12372. Executive Order 12372 sets up a system for state and local government review of proposed Federal assistance applications. Applicants (other than federally-recognized Indian tribal governments) should contact their state Single Point of Contact (SPOC) as early as possible to alert them to the prospective applications and receive any necessary instructions on the state process. For proposed projects serving more than one state, the applicant is advised to contact the SPOC for each affected state. A current list of SPOCs is included in the application kit. If SPOCs have any state process recommendations on the applications submitted to CDC, they should forward them to Henry S. Cassell, III, Grants Management Officer, Grants Management Branch, Procurement and Grants Office, Centers for Disease Control and Prevention (CDC), 255 East Paces Ferry Road, NE., Atlanta, Georgia 30305, no later than 30 days after the application deadline date. (A waiver for the 60 day requirement has been requested.) The granting agency does not guarantee to "accommodate or explain" for state process recommendations it receives after that date.

Public Health System Reporting Requirements

This program is not subject to the Public Health System Reporting Requirements.

Catalog of Federal Domestic Assistance Number (CFDA)

The Catalog of Federal Domestic Assistance Number for this program is 93.283.

Other Requirements

Projects that involve the collection of information from 10 or more individuals and funded by the cooperative agreement will be subject to review by the Office of Management and Budget (OMB) under the Paperwork Reduction Act.

Application Submission and Deadline

The original and two copies of the application PHS Form 5161–1 must be submitted to Henry S. Cassell, III, Grants Management Officer, Grants Management Branch, Procurement and Grants Office, Centers for Disease Control and Prevention (CDC), 255 East Paces Ferry Road, NE., Room 300, Mailstop E–13, Atlanta, Georgia 30305, on or before September 3, 1993.

1. *Deadline:* Applications shall be considered as meeting the deadline if they are:

(a) Received on or before the deadline date; or

(b) Sent on or before the deadline date and received in time for submission to the objective review group. (Applicants must request a legibly dated U.S. Postal Service postmark or obtain a legibly dated receipt from a commercial carrier or U.S. Postal Service. Private metered postmarks shall not be acceptable as proof of timely mailing.)

2. *Late Applications:* Applications which do not meet the criteria in 1.(a) or 1.(b) above are considered late applications. Late applications will not be considered in the current competition and will be returned to the applicant.

Where to Obtain Additional Information

To receive additional written information call (404) 332–4561. You will be asked to leave your name, address, and phone number and you will need to refer to Announcement Number 358. You will receive a complete program description, information on application procedures, and application forms.

If you have questions after reviewing the contents of all the documents, business management technical assistance may be obtained from Oppie Byrd, Grants Management Specialist, Grants Management Branch, Procurement and Grants Office, Centers for Disease Control and Prevention (CDC), 255 East Paces Ferry Road, NE., Room 300, Mailstop E–13, Atlanta, Georgia 30305, (404) 842–6546. Programmatic technical assistance may be obtained from John E. Parker, National Institute for Occupational Safety and Health, Division of Respiratory Disease Studies, 944 Chestnut Ridge Road, Mailstop 122, Morgantown, West Virginia 26505, (304) 291–4301.

Please refer to Announcement Number 358 when requesting information and submitting an application.

Potential applicants may obtain a copy of Healthy People 2000 (Full Report, Stock No. 017–001–00474–0) or Healthy People 2000 (Summary Report, Stock No. 017–001–00473–1) referenced in the **Introduction** through the Superintendent of Documents, Government Printing Office, Washington, DC 20402–9325, telephone (202) 783–3238.

Dated: July 29, 1993.

Richard A. Lemen,

Acting Director, National Institute for Occupational Safety and Health, Centers for Disease Control and Prevention (CDC).

[FR Doc. 93–18535 Filed 8–3–93; 8:45 am]

BILLING CODE 4160–18–P

Food and Drug Administration

[Docket No. 93N–0275]

Drug Export; Chiron® Riba™ HCV 3.0 SIA

AGENCY: Food and Drug Administration, HHS.

ACTION: Notice.

SUMMARY: The Food and Drug Administration (FDA) is announcing that Chiron Corp. has filed an application requesting approval for the export of the biological product CHIRON® RIBA™ HCV 3.0 SIA to Australia, Austria, Belgium, Canada, Denmark, Federal Republic of Germany, Finland, France, Iceland, Ireland, Italy, Japan, Luxembourg, the Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom.

ADDRESSES: Relevant information on this application may be directed to the Dockets Management Branch (HFA–305), Food and Drug Administration, rm. 1–23, 12420 Parklawn Dr., Rockville, MD 20857, and to the contact person identified below. Any future inquiries concerning the export of human biological products under the Drug Export Amendments Act of 1986 should also be directed to the contact person.

FOR FURTHER INFORMATION CONTACT: Frederick W. Blumenschein, Center for Biologics Evaluation and Research (HFM–660), Food and Drug Administration, 1401 Rockville Pike, Rockville, MD 20852–1448, 301–295–9070.

SUPPLEMENTARY INFORMATION: The Drug Export Amendments Act of 1986 (Pub. L. 99–660) (section 802 of the Federal Food, Drug, and Cosmetic Act (the act) (21 U.S.C. 382)) provides that FDA may approve applications for the export of biological products that are not currently approved in the United States. Section 802(b)(3)(B) of the act sets forth the requirements that must be met in an application for approval. Section 802(b)(3)(C) of the act requires that the agency review the application within 30 days of its filing to determine whether the requirements of section 802(b)(3)(B) have been satisfied. Section 802(b)(3)(A) of the act requires that the agency publish a notice in the **Federal Register** within 10 days of the filing of an application for export to facilitate public participation in its review of the application. To meet this requirement, the agency is providing notice that Chiron Corp., 4560 Horton St., Emeryville, CA 94608, has filed an application requesting approval for the export of the biological product, CHIRON® RIBA™ HCV 3.0 SIA to Australia, Austria, Belgium, Canada, Denmark, Federal Republic of Germany, Finland, France, Iceland, Ireland, Italy, Japan, Luxembourg, the Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom. CHIRON® RIBA™ HCV 3.0 SIA is an in vitro qualitative enzyme immunoassay for the detection of antibody to hepatitis C virus (anti-HCV) in human serum or plasma. The application was received and filed in the Center for Biologics Evaluation and Research on June 17, 1993, which shall be considered the filing date for purposes of the act.

Interested persons may submit relevant information on the application to the Dockets Management Branch (address above) in two copies (except that individuals may submit single copies) and identified with the docket number found in brackets in the heading of this document. These submissions may be seen in the Dockets Management Branch between 9 a.m. and 4 p.m., Monday through Friday.

The agency encourages any person who submits relevant information on the application to do so by August 16, 1993, and to provide an additional copy of the submission directly to the contact person identified above, to facilitate consideration of the information during the 30-day review period.

This notice is issued under the Federal Food, Drug, and Cosmetic Act (sec. 802 (21 U.S.C. 382)) and under authority delegated to the Commissioner of Food and Drugs (21 CFR 5.10) and redelegated to the Center for Biologics Evaluation and Research (21 CFR 5.44).

Dated: July 19, 1993.

P. Michael Dubinsky,

Acting Director, Office of Compliance, Center for Biologics Evaluation and Research.

[FR Doc. 93–18495 Filed 8–3–93; 8:45 am]

BILLING CODE 4160–01–F

DEPARTMENT OF THE INTERIOR

Bureau of Land Management

[WY-030-03-4320-01]

Grazing Advisory Board to Hold Meeting

AGENCY: Bureau of Land Management, DOI.

ACTION: Rawlings district grazing advisory board meeting.

SUMMARY: Notice is hereby given in accordance with Public Law 92-463 and 94-5799 that a meeting of the Rawlings District Grazing Advisory Board will be held. This notice sets forth the schedule and proposed agenda for the meeting.

DATES: August 31, 1993.

ADDRESSES: Bureau of Land Management, Rawlins District Office, 1300 N. Third Street, P.O. Box 670, Rawlins, Wyoming 82301.

FOR FURTHER INFORMATION CONTACT:

John Spehar, District Range Conservationist, Rawlins District Office, Bureau of Land Management, P.O. Box 670, Rawlins, Wyoming 82301, (307) 324-7171.

SUPPLEMENTARY INFORMATION: The agenda for the meeting will include:

1. Introduction and opening remarks.
2. Opportunity for the public present information or make statements.
3. Summary of the 1993 range improvement program to-date.
4. Review of the Grizzly-Daley Allotments grazing plan for 1993.
5. Wild Horse Program Update.
6. Tour of rangeland improvement projects constructed in Fiscal Year 1993 and projects proposed for Fiscal Year 1994.

The meeting and tour are open to the public. Individuals going on the tour must furnish their own 4-wheel-drive transportation and lunch. Anyone interested in attending the meeting or making an oral presentation to the Board must notify the District Manager by August 15, 1993. Written statements may also be filed for the Board's consideration. Summary minutes of this meeting will be on file in the Rawlins District Office and available for public inspection (during regular business hours) within 30 days of the meeting.

Dated: July 27, 1993.

Al Pierson,

District Manager.

[FR Doc. 93-18561 Filed 8-3-93; 8:45 am]

BILLING CODE 4310-22-M

[ID-942-03-4730-02]

Idaho: Filing of Plats of Survey; ID

The plat of survey of the following described land will be officially filed in the Idaho State Office, Bureau of Land Management, Boise, Idaho, effective 9:00 a.m., September 3, 1993.

The plat representing the dependent resurvey of portions of the west boundary, subdivisional lines, and meanders of the right and left banks of the Salmon River, the subdivision of section 7, and the survey of the meanders of the left bank of the Salmon River, Township 20 North, Range 22 East, Boise Meridian, Idaho, Group No. 811, was accepted July 23, 1993.

This survey was executed to meet certain administrative needs of the Bureau of Land Management.

All inquiries concerning the survey of the above-described land must be sent to the Chief, Branch of Cadastral Survey, Idaho State Office, Bureau of Land Management, 3380 Americana Terrace, Boise, Idaho 83706.

Dated: July 23, 1993.

Duane E. Olsen,

Chief Cadastral Surveyor for Idaho.

[FR Doc. 93-18506 Filed 8-3-93; 8:45 am]

BILLING CODE 4310-GG-M

Fish and Wildlife Service

Receipt of Applications for Permit

The following applicants have applied for a permit to conduct certain activities with endangered species. This notice is provided pursuant to section 10(c) of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531, *et seq.*):

PRT-776622

Applicant: Larry Johnson, Orange, CA

The applicant requests a permit to export three Indian guars (*Bos gaurus gaurus*) to Mexico for enhancement of propagation and survival of the species, and for education conservation.

PRT-769304

Applicant: Jeffrey Halstead, Clovis, CA

The applicant requests amendment of his current permit to live-trap and release Fresno kangaroo rats (*Dipodomys nitratoides exilis*) and Tipton kangaroo rats (*Dipodomys nitratoides nitratoides*) to include other locations within California for determining the presence and abundance of the species.

PRT-781346

Applicant: A. Clark Miller, Sarasota, FL

The applicant requests a permit to import the sport-hunted trophy of one male bontebok (*Damaliscus dorcas dorcas*) culled from the captive herd maintained by Mr. R.M.P. Hockly, "Cullendale", Republic of South Africa, for the purpose of enhancement of survival of the species.

PRT-778087

Applicant: PRBO, Stinson Beach, CA

Applicant requests a permit to take (capture, band and release) Hawaiian dark-rumped petrel (*Pterodroma phaeopygia sandwichensis*) to determine breeding biology of species colony on Kauai, Hawaii.

Written data or comments should be submitted to the Director, U.S. Fish and Wildlife Service, Office of Management Authority, 4401 North Fairfax Drive, room 432, Arlington, Virginia 22203 and must be received by the Director within 30 days of the date of this publication.

Documents and other information submitted with these applications are available for review by any party who submits a written request for a copy of such documents to the following office within 30 days of the date of publication of this notice: U.S. Fish and Wildlife Service, Office of Management Authority, 4401 North Fairfax Drive, room 432, Arlington, Virginia 22203. Phone: (703/358-2104); FAX: (703/358-2281).

Dated: July 30, 1993.

Susan Jacobsen,

Acting Chief, Branch of Permits, Office of Management Authority.

[FR Doc. 93-18558 Filed 8-3-93; 8:45 am]

BILLING CODE 4310-55-M

Issuance of Permit for Marine Mammals

On May 27, 1993, a notice was published in the **Federal Register**, Vol. 57, No. 127, Page 29331, that an application had been filed with the Fish and Wildlife Service by the Virginia Department of Game and Island Fisheries for a permit (PRT 776441) to import one hide of a polar bear (*Ursus maritimus*) for public display purposes.

Notice is hereby given that on July 12, 1993, as authorized by the provisions of the Marine Mammal Protection Act of 1972, as amended (16 U.S.C. 1361 et seq.) the Fish and Wildlife Service authorized the requested permit subject to certain conditions set forth therein.

Documents and other information submitted for these applications are available for review by any party who submits a written request to the U.S. Fish and Wildlife Service, Office of Management Authority, 4401 North

Fairfax Drive, rm. 420(c), Arlington, Virginia 22203. Phone (703) 358–2104 or Fax (703) 358–2281.

Dated: July 30, 1993.

Susan Jacobsen,

Acting Chief, Branch of Permits, Office of Management Authority.

[FR Doc. 93–18559 Filed 8–3–93; 8:45 am]

BILLING CODE 4310-55-M

National Park Service

Meetings

AGENCY: National Park Service, Interior.

ACTION: Subsistence Resource Commission meeting.

SUMMARY: The Superintendent of Cape Krusenstern National Monument and Kobuk Valley National Park and the Chairpersons of the Subsistence Resource Commissions for Cape Krusenstern National Monument and Kobuk Valley National Park announce a forthcoming joint meeting of the Cape Krusenstern National Monument and Kobuk Valley National Park Subsistence Resource Commissions.

The following agenda items will be discussed:

(1) Welcome.
(2) Review of agenda.
(3) Introduction of guests.
(4) Approval of minutes of last meeting.
(5) Election of chairperson and vice chair.
(6) Superintendent's report.
(7) Old business:
  (a) Resident zones.
  (b) Finalization of Hunting Plan.
(8) New business:
  (a) Federal Subsistence Coordinator's report.
  (b) Regional development impacts on subsistence.
  (c) Borough zoning.
  (d) Hunting concessions.
  (e) Harvest reports.
(9) Agency comments.
(10) Public comments.
(11) Date of next meeting.
(12) Adjournment.

DATE: The meeting will be held Wednesday, August 18, 1993. The meeting will begin at 9 a.m. and conclude around 5 p.m.

LOCATION: The meeting will be held at the National Guard Armory, Kotzebue, Alaska.

FOR FURTHER INFORMATION CONTACT: Robert Gerhard, Superintendant, PO Box 1029, Kotzebue, Alaska 99752. Phone (907) 442–3890.

SUPPLEMENTARY INFORMATION: The Subsistence Resource Commissions are authorized under title VIII, section 808, of the Alaska National Interest Lands Conservation Act, Public Law 96–487, and operate in accordance with the provisions of the Federal Advisory Committees Act.

John M. Morehead,

Regional Director.

[FR Doc. 93–18587 Filed 8–3–93; 8:45 am]

BILLING CODE 4310-70-M

INTERNATIONAL DEVELOPMENT COOPERATION AGENCY

Agency for International Development

Board for International Food and Agricultural Development and Economic Cooperation; Meeting

Pursuant to the provisions of the Federal Advisory Committee Act, notice is hereby given of the one hundred and seventeenth meeting of the Board for International Food and Agricultural Development and Economic Cooperation (BIFADEC) on September 9, 1993 from 8:30 a.m. to 3:30 p.m.

The purposes of the Meeting are: (1) To discuss hunger and poverty issues in developing countries; (2) to review the Deputy of State recommendations on foreign assistance; (3) to discuss A.I.D. proposed strategies on foreign assistance and (4) to hear a legislative report on foreign aid.

This meeting will be held in the Pan American Health Organization Building located at 525 23rd Street (between 23rd and Virginia Avenue), Washington, DC. At this address it will be held in Conference Room C. Any interested person may attend and may present oral statements in accordance with procedures established by the Board and to the extent time available for the Meeting permits.

Jiryis S. Oweis, Chief BIFADEC Support Staff will be the A.I.D. Advisory Committee Representative at this Meeting. Those desiring further information may write to Jiryis S. Oweis in care of the Agency for International Development, room 900, SA–38, Washington, DC 20523–3801 or telephone him on (703) 816–0264.

Dated: July 28, 1993.

Richard Fairley,

Acting Executive Director, Agency Center for University, Cooperation in Development.

[FR Doc. 93–18503 Filed 8–3–93; 8:45 am]

BILLING CODE 6116-01-M

INTERNATIONAL TRADE COMMISSION

[Investigation No. 337–TA–352]

Commission Determination Not to Review an Initial Determination Granting Motion to Intervene

In the matter of Certain Personal Computers with Memory Management Information Stored in External Memory and Related Materials.

AGENCY: U.S. International Trade Commission.

ACTION: Notice.

SUMMARY: Notice is hereby given that the U.S. International Trade Commission has determined not to review the presiding administrative law judge's initial determination (ID) in the above-captioned investigation granting the motion of Advanced Micro Devices, Inc. to intervene on the side of respondents in the investigation.

FOR FURTHER INFORMATION CONTACT: Matthew T. Bailey, Esq., Office of the General Counsel, U.S. International Trade Commission, telephone 202–205–3108.

SUPPLEMENTARY INFORMATION: On June 16, 1993, Advanced Micro Devices, Inc. (AMD) filed a Motion to Intervene on the Side of Respondents. Complainant Intel Corp. filed an opposition to the motion and respondents Twinhead Int'l Corp. and Twinhead Corp. and the Commission investigative attorney filed responses in support of the motion. On July 2, 1993, the presiding administrative law judge issued an ID granting AMD's motion to intervene. No petitions for review or agency comments were filed regarding the ID.

This action is taken under the authority of section 337 of the Tariff Act of 1930, 19 U.S.C. 1337, and § 210.53 of the Commission's Interim Rules of Practice and Procedure, 19 CFR 210.53.

Copies of the ID and all other nonconfidential documents filed in connection with this investigation are available for inspection during official business hours (8:45 a.m. to 5:15 p.m.) in the Office of the Secretary, U.S. International Trade Commission, 500 E Street SW., Washington, DC 20436, telephone 202–205–2000. Hearing-impaired persons are advised that information on the matter can be obtained by contacting the Commission's TDD terminal on 202–205–1810.

Issued: July 27, 1993.

By order of the Commission.

Donna R. Koehnke,

Secretary.

[FR Doc. 93–18584 Filed 8–3–93; 8:45 am]

BILLING CODE 7020–02–P

[Investigation No. 337–TA–350]

Commission Hearing

AGENCY: U.S. International Trade Commission.

ACTION: Notice.

In the matter of certain sputtered carbon coated computer disks and products containing same, including disk drives.

SUMMARY: Notice is hereby given that the U.S. International Trade Commission has determined to hold a public hearing in the above-captioned investigation to allow parties to present oral argument on the jurisdictional issues that are being reviewed by the Commission.

FOR FURTHER INFORMATION CONTACT: Marc A. Bernstein, Office of the General Counsel, U.S. International Trade Commission, 500 E Street, SW., Washington, DC 20436, telephone 202–205–3087.

SUPPLEMENTARY INFORMATION: The Commission instituted this investigation, which concerns allegations of section 337 violations in the importation, sale for importation, and sale after importation of sputtered carbon coated computer disks and products containing such disks, including disk drives, on May 5, 1993. Complainant Aine alleges infringement of claims 23, 24, 25, 26, and 29 of U.S. Letters Patent Re 32,464.

On May 28, 1993, the presiding administrative law judge (ALJ) issued an initial determination granting motions for summary determination or partial summary determination on the issue of jurisdiction filed by six respondents.

On June 30, 1993, the Commission determined to review this initial determination and to conduct oral argument in connection with its review.

On July 2, 1993, the ALJ issued an initial determination granting motions for partial summary determination on the issue of jurisdiction filed by two respondents. On July 21, 1993, the Commission determined to review this initial determination and to consolidate its review with review of the May 28, 1993, initial determination.

COMMISSION HEARING: The Commission will hold a public hearing on Wednesday, September 8, 1993, in its main hearing room, 500 E Street, SW., Washington, DC, beginning at 10 a.m. The hearing will be limited to the jurisdictional issues under review. The order and time limits for presentations shall be as follows:

Movants for summary determination—30 minutes collectively.

Opponents of summary determination—30 minutes collectively.

These time limits shall be exclusive of the time consumed by questioning by the Commission. The movants for summary determination may set aside part of their time for rebuttal. The hearing will be open to the public.

Notice of appearance. Written requests to appear at the Commission hearing must be filed with the Office of the Secretary no later than 10 days after publication of this notice in the **Federal Register**. The various parties on each side shall confer among themselves prior to the hearing to determine how their 30 minutes shall be apportioned among each party desiring to argue.

This action is taken under the authority of section 337 of the Tariff Act of 1930, 19 U.S.C. 1337, and Commission interim rule 210.56, 19 CFR 210.56.

Hearing-impaired persons are advised that information on this matter can be obtained by contacting the Commission's TDD terminal on 202–205–1810.

Dated: July 27, 1993.

By order of the Commission.

Donna R. Koehnke,

Secretary.

[FR Doc. 93–18583 Filed 8–3–93; 8:45 am]

BILLING CODE 7020–02–P

[Investigation No. 337–TA–350]

Decision not to Review an Initial Determination Granting Joint Motion to Terminate Investigation With Respect to Respondent Yamaha Corp. on The Basis of a License Agreement

AGENCY: U.S. International Trade Commission.

ACTION: Notice.

In the matter of certain sputtered carbon coated computer disks and products containing same, including disk drives.

SUMMARY: Notice is hereby given that the U.S. International Trade Commission has determined not to review an initial determination (ID) (Order No. 47) issued on July 2, 1993, by the presiding administrative law judge (ALJ) in the above-captioned investigation granting the joint motion of complainant Harry E. Aine ("Aine") and respondent Yamaha Corp. ("Yamaha") to terminate the investigation with respect to Yamaha on the basis of a license agreement.

FOR FURTHER INFORMATION CONTACT: Marc A. Bernstein, Office of the General Counsel, U.S. International Trade Commission, 500 E Street SW., Washington, DC 20436, telephone 202–205–3087.

SUPPLEMENTARY INFORMATION: The Commission instituted this investigation, which concerns allegations of section 337 violations in the importation, sale for importation, and sale after importation of sputtered carbon coated computer disks and products containing such disks, including disk drives, on May 5, 1993. Complainant Aine alleges infringement of claims 23, 24, 25, 26, and 29 of U.S. Letters Patent Re 32,464.

On June 7, 1993, Aine and Yamaha filed a joint motion to terminate the investigation with respect to Yamaha on the basis of a licensing agreement. No party opposed the motion, and the Commission investigative attorney filed a response supporting it. On July 2, 1993, the ALJ issued an ID granting the joint motion and terminating the investigation as to Yamaha. No petitions for review of the ID were filed. No agency or public comments were received.

This action is taken under the authority of section 337 of the Tariff Act of 1930, 19 U.S.C. 1337, and Commission interim rule 210.53, 19 CFR 210.53.

Copies of the nonconfidential version of the ID and all other nonconfidential documents filed in connection with this investigation are or will be available for inspection during official business hours (8:45 a.m. to 5:15 p.m.) in the Office of the Secretary, U.S. International Trade Commission, 500 E Street SW., Washington, DC 20436, telephone 202–205–2000. Hearing-impaired persons are advised that information on this matter can be obtained by contacting the Commission's TDD terminal on 202–205–1810.

Dated: July 27, 1993.

By order of the Commission.

Donna R. Koehnke,

Secretary.

[FR Doc. 93–18582 Filed 8–3–93; 8:45 am]

BILLING CODE 7020–02–P

[Investigation 337–TA–350]

Initial Determination Terminating Respondent on the Basis of Settlement Agreement

AGENCY: U.S. International Trade Commission.

ACTION: Notice is hereby given that the Commission has received an initial determination from the presiding officer in the above captioned investigation terminating the following respondent on the basis of a settlement agreement: Nippon Sheet Glass Company, Ltd.

In the matter of certain sputtered carbon coated computer disks and products containing same, including disk drives.

SUPPLEMENTARY INFORMATION: This investigation is being conducted pursuant to section 337 of the Tariff Act of 1930 (19 U.S.C. 1337). Under the Commission's rules, the presiding officer's initial determination will become the determination of the Commission thirty (30) days after the date of its service upon the parties, unless the Commission orders review of the initial determination. The initial determination in this matter was served upon parties on July 29, 1993.

Copies of the initial determination, the settlement agreement, and all other nonconfidential documents filed in connection with this investigation are available for inspection during official business hours (8:45 a.m. to 5:15 p.m.) in the Office of the Secretary, U.S. International Trade Commission, 500 E Street SW., Washington, DC 20436, telephone (202) 205–2000. Hearing impaired individuals are advised that information on this matter can be obtained by contacting the Commission's TDD terminal on (202) 205–1810.

WRITTEN COMMENTS: Interested persons may file written comments with the Commission concerning termination of the aforementioned respondents. The original and 14 copies of all such documents must be filed with the Secretary to the Commission, 500 E Street SW., Washington, DC 20436, no later than 10 days after publication of this notice in the **Federal Register**. Any person desiring to submit a document (or portions thereof) to the Commission in confidence must request confidential treatment. Such requests should be directed to the Secretary to the Commission and must include a full statement of the reasons why confidential treatment should be granted. The Commission will either accept the submission in confidence or return it.

FOR FURTHER INFORMATION CONTACT: Ruby J. Dionne, Office of the Secretary, U.S. International Trade Commission, Telephone (202) 205–1802.

Issued: July 29, 1993.

By order of the Commission.

Donna R. Koehnke,

Secretary.

[FR Doc. 93–18581 Filed 8–3–93; 8:45 am]

BILLING CODE 7020–02–P

INTERSTATE COMMERCE COMMISSION

[Docket No. AB–55 (Sub-No. 468X)]

CSX Transportation, Inc.—Abandonment Exemption—In Fannin County, GA

CSX Transportation, Inc. (CSXT), has filed a notice of exemption under 49 CFR part 1152 subpart F—Exempt Abandonments to abandon approximately 2.89 miles of rail line between milepost OKG–393.47 at Murphy Junction, GA, and milepost OKG–396.36 at Mineral Bluff, GA, in Fannin County, GA.

CSXT has certified that: (1) No local traffic has moved over the line for at least 2 years; (2) there is no overhead traffic on the line; (3) no formal complaint filed by a user of rail service on the line (or a State or local government entity acting on behalf of such user) regarding cessation of service over the line either is pending with the Commission or with any U.S. District Court or has been decided in favor of the complainant within the 2-year period; and (4) the requirements at 49 CFR 1105.7 (service of environmental report on agencies), 49 CFR 1105.8 (service of historic report on State Historic Preservation Officer), 49 CFR 1105.12 (newspaper publication), and 49 CFR 1152.50(d)(1) (service of verified notice on governmental agencies) have been met.

As a condition to use of this exemption, any employee affected by the abandonment shall be protected under Oregon Short Line R. Co.—Abandonment—Goshen, 360 I.C.C. 91 (1979). To address whether this condition adequately protects affected employees, a petition for partial revocation under 49 U.S.C. 10505(d) must be filed.

Provided no formal expression of intent to file an offer of financial assistance (OFA) has been received, this exemption will be effective on September 3, 1993, unless stayed pending reconsideration. Petitions to stay that do not involve environmental issues,[1] formal expressions of intent to file an OFA under 49 CFR 1152.27(c)(2),[2] and trail use/rail banking statements under 49 CFR 1152.29 must be filed by August 16, 1993.[3] Petitions to reopen or requests for public use conditions under 49 CFR 1152.28 must be filed by August 24, 1993, with: Office of the Secretary, Case Control Branch, Interstate Commerce Commission, Washington, DC 20423.

A copy of any petition filed with the Commission should be sent to Charles M. Rosenberger, CSX Transportation, Inc., 500 Water Street, J150, Jacksonville, FL 32202.

If the notice of exemption contains false or misleading information, use of the exemption is void ab initio.

Applicant has filed an environmental report which addresses the abandonment's effects, if any, on the environmental or historic resources. The Section of Energy and Environment (SEE) will issue an environmental assessment (EA) by August 9, 1993. Interested persons may obtain a copy of the EA by writing to SEE (room 3219, Interstate Commerce Commission, Washington, DC 20423) or by calling Elaine Kaiser, Chief of SEE, at (202) 927–6248. Comments on environmental and historic preservation matters must be filed within 15 days after the EA becomes available to the public.

Environmental, historic preservation, public use, or trail use/rail banking conditions will be imposed, where appropriate, in a subsequent decision.

Decided: July 26, 1993.

By the Commission, David M. Konschnik, Director, Office of Proceedings.

Sidney L. Strickland, Jr.,

Secretary.

[FR Doc. 93–18568 Filed 8–3–93; 8:45 am]

BILLING CODE 7035–01–M

[1] A stay will be issued routinely by the Commission in those proceedings where an informed decision on environmental issues (whether raised by a party or by the Commission's Section of Energy and Environment in its independent investigation) cannot be made prior to the effective date of the notice of exemption. See Exemption of Out-of-Service Rail Lines, 5 I.C.C.2d 377 (1989). Any entity seeking a stay on environmental concerns is encouraged to file its request as soon as possible in order to permit this Commission to review and act on the request before the effective date of this exemption.

[2] See Exempt. of Rail Abandonment—Offers of Finan. Assist., 4 I.C.C.2d 164 (1987).

[3] The Commission will accept a late-filed trail use request as long as it retains jurisdiction to do so.

U.S. Department of Labor

Pension and Welfare Benefits Administration

Withdrawal of Notice of Proposed Exemption Involving the Peoples National Bank of Lebanon Profit Sharing Plan (the Plan); Located in Lebanon, PA

[Exemption Application No. D–9264]

In the **Federal Register** dated May 14, 1993 (58 FR 28626/28628), the Department of Labor (the Department) published a notice of proposed exemption from the prohibited transaction restrictions of the Employee Retirement Income Security Act of 1974 and from certain taxes imposed by the Internal Revenue Code of 1986. The notice of proposed exemption concerned the prospective cash sale of five residential mortgage notes by the Plan to Meridian Bank, a party in interest with respect to the Plan.

On July 19, 1993, the applicant informed the Department that it wished to withdraw the notice of proposed exemption.

Accordingly, the notice of proposed exemption is hereby withdrawn.

Signed at Washington, DC, this 29th day of July, 1993.

Ivan Strasfeld,

Director of Exemption Determinations, Pension and Welfare Benefits Administration, U. S. Department of Labor.

[FR Doc. 93–18541 Filed 8–3–93; 8:45 am]

BILLING CODE 4510–29–P

DEPARTMENT OF LABOR

Pension and Welfare Benefits Administration

[Prohibited Transaction Exemption 93–49; Exemption Application No. D–8510, et al.]

Grant of Individual Exemptions; Metropolitan Life Insurance Company (MET), et al.

AGENCY: Pension and Welfare Benefits Administration, Labor.

ACTION: Grant of Individual Exemptions.

SUMMARY: This document contains exemptions issued by the Department of Labor (the Department) from certain of the prohibited transaction restrictions of the Employee Retirement Income Security Act of 1974 (the Act) and/or the Internal Revenue Code of 1986 (the Code).

Notices were published in the **Federal Register** of the pendency before the Department of proposals to grant such exemptions. The notices set forth a summary of facts and representations contained in each application for exemption and referred interested persons to the respective applications for a complete statement of the facts and representations. The applications have been available for public inspection at the Department in Washington, D.C. The notices also invited interested persons to submit comments on the requested exemptions to the Department. In addition the notices stated that any interested person might submit a written request that a public hearing be held (where appropriate). The applicants have represented that they have complied with the requirements of the notification to interested persons. No public comments and no requests for a hearing, unless otherwise stated, were received by the Department.

The notices of proposed exemption were issued and the exemptions are being granted solely by the Department because, effective December 31, 1978, section 102 of Reorganization Plan No. 4 of 1978 (43 FR 47713, October 17, 1978) transferred the authority of the Secretary of the Treasury to issue exemptions of the type proposed to the Secretary of Labor.

Statutory Findings

In accordance with section 408(a) of the Act and/or section 4975(c)(2) of the Code and the procedures set forth in 29 CFR part 2570, subpart B (55 FR 32836, 32847, August 10, 1990) and based upon the entire record, the Department makes the following findings:

(a) The exemptions are administratively feasible;

(b) They are in the interests of the plans and their participants and beneficiaries; and

(c) They are protective of the rights of the participants and beneficiaries of the plans.

Metropolitan Life Insurance Company (Met); Located in New York, New York [Prohibited Transaction Exemption 93–49; Application No. D–8510].

Exemption

Effective December 23, 1987, the restrictions of sections 406(a) and 406(b)(1) and (b)(2) of the Act and the sanctions resulting from the application of section 4975 of the Code, by reason of section 4975(c)(1)(A) through (E) of the Code, shall not apply to: (1) The past cash sale by a pooled real estate separate account (Account RE), which was managed by Met and in which certain employee benefit plans (the Plans) participated, of the interests owned by Account RE in certain parcels of property (the Parcels) to Met Life International Real Estate Partners Limited Partnership (the LP), a party in interest with respect to the Plans; and (2) the reimbursement in cash by Met to Account RE of certain amounts in connection with the above sale; provided that: (a) the terms of the transaction were similar to those which could be obtained at arm's length between third parties in similar circumstances; (b) the price paid by the LP to Account RE, plus the amount reimbursed by Met to Account RE was not less than the fair market value of Account RE's interests in the Parcels on December 23, 1987, the date of the sale; and (c) the transaction was reviewed and approved by an independent fiduciary, acting on behalf of the Plans participating in Account RE.

EFFECTIVE DATE: The exemption will be effective December 23, 1987.

For a more complete statement of the facts and representations supporting the Department's decision to grant this exemption refer to the notice of proposed exemption published on June 9, 1993, at 58 FR 32365.

FOR FURTHER INFORMATION CONTACT: Angelena C. Le Blanc of the Department, telephone (202) 219–8883 (This is not a toll-free number.)

Memorex Telex Employees' Pension Plan (the Plan); Located in Tulsa, Oklahoma [Prohibited Transaction Exemption 93–50; Exemption Application No. D–8716]

Exemption

The restrictions of sections 406(a), 406(b)(1) and (b)(2) and 407(a) of the Act and the sanctions resulting from the application of section 4975 of the Code, by reason of section 4975(c)(1)(A) through (E) of the Code, shall not apply to: (1) The September 28, 1990 purchase by the Plan from Memorex Telex Holding, N.V. (MT-Holding), a party in interest with respect to the Plan, of 382,769 shares of stock (the Stock) of Memorex Telex Japan Limited (MT-Japan) for $5 million; (2) the Plan's holding of the Stock; and (3) the acquisition, holding and exercise by the Plan of an irrevocable put option (the Put Option) which permits the Plan to sell the Stock to Memorex Telex N.V. (MTNV) on behalf of MT-Holding at a price per share equal to the Plan's acquisition price for the Stock, provided: (a) The Plan paid no more than the fair market value of the Stock on the date of the acquisition; (b) the transactions were approved on behalf of the Plan by a qualified, independent fiduciary; (c) the Plan's independent fiduciary will monitor the holding of the Stock by the Plan and take whatever action is necessary to protect the Plan's rights, including, but not limited to, the

exercising of the Put Option if the independent fiduciary, in his sole discretion, determines that such exercise is appropriate; and (d) an escrow agreement, as described in the notice of proposed exemption, was maintained as long as the Plan continued to hold any shares of the Stock.

For a more complete statement of the facts and representations supporting the Department's decision to grant this exemption, refer to the notice of proposed exemption published on October 22, 1992 at 57 FR 48245.

EFFECTIVE DATE: This exemption is effective September 28, 1990.

WRITTEN COMMENTS AND HEARING REQUESTS: The Department received 21 written comments from interested persons with respect to the proposed exemption. Three of the comments stated that the interested person did not understand the proposed exemption. The remaining comments were submitted in opposition to the granting of the exemption. The interested persons expressed concerns over the conflict of interest; the failure to demonstrate that the investment by the Plan in the Stock was better than other investments available in the commercial market at the time, or other options; and their belief that the Plan's interests were not adequately protected by the Put Option or the escrow account (the Account) established by MTNV to safeguard the Plan's investment in the Stock.

The Plan's independent fiduciary, U.S. Trust (UST), has responded to the comments submitted. In its response, UST has described the procedures and analysis it undertook throughout its decision-making process, which UST believes reflects the basis for its determination that the terms of the purchase of the Stock by the Plan negotiated by UST made the Stock a sound investment for the Plan and provided adequate security.

UST represents that on September 20, 1990, it initiated its preliminary review of the transaction. UST represents that it followed extensive procedures regarding the purchase of employer securities by employee benefit plans that it has developed over the course of a number of similar transactions. UST first determined that it was permissible for the Plan to hold stock of a foreign issuer traded on a foreign exchange under the Department's regulation 29 CFR section 2550.404b–1.[1]

[1] The Department is providing no view herein with regard to whether the Plan's holding of the Stock met the conditions contained in section [illegible] 404b–1.

UST represents that it next considered the investment objectives of the Plan and determined that an equity security with the potential for capital appreciation was consistent with the investment objectives of the Plan. UST then began the process of collecting all pertinent historical financial information relating to MT-Japan, including detailed financial projections prepared by MT-Japan's management. UST also obtained publicly available financial information relating to companies of approximately the same size and in the same business field as MT-Japan. UST assigned certain of its internal financial experts with experience in international securities markets to review and analyze the financial information. Those individuals also conducted interviews with the management of MT-Japan in order to test the financial projections and evaluate the company's prospects. Finally, UST consulted with experts in the Japanese financial markets to obtain different opinions as to the financial prospects of MT-Japan.

UST represents that after completing its due diligence, it valued the Stock using a variety of generally accepted valuation methodologies. This produced a range of fair market values for the Stock. UST determined that if it could negotiate a purchase price for the Stock that was below the bottom of its range of fair market values, the Stock would represent a very good financial investment for the Plan.

In addition to fair market value, UST represents that it considered the potential volatility of the price of the Stock and its liquidity. It was determined that if UST could negotiate certain downside protections, as well as a favorable price, the Stock would be an excellent investment.

With those objectives, UST began negotiating possible terms with MT-Holding and obtained a number of terms that made the transaction much more favorable to the Plan than the customary purchase of an equity security. First, UST received a 15% discount from the closing bid price on the date of the transaction. On September 28, 1990, the closing bid price on the Tokyo Exchange was 2,120 yen, which converts to approximately $15.37 per share. The Plan actually paid approximately $13.06 per share for the Stock, representing a 15% discount from the fair market value. The discount lowered the price substantially below the bottom of the range of fair market values calculated by UST.

Additionally, UST represents that it entered into an escrow agreement with MTNV at the closing of the purchase, which required that MTNV transfer $1 million into the Account to be held by UST. The agreement provided that if the Plan were to sell any shares of the Stock for less than the price per share paid by UST, the Plan would be reimbursed from the Account for any losses resulting from the sale up to the balance of the Account. The fact that UST acted as the escrow agent ensured that the funds were immediately available to the Plan in the event of a sale of the Stock at a loss. In addition, MTNV provided a separate letter (the Side Letter) to UST dated September 28, 1990, wherein MTNV agreed that if the closing bid price of the Stock ever fell by more than 15% from the closing bid price on September 28, 1990, MTNV would negotiate in good faith with UST to implement additional measures to further protect the Plan's investment in the Stock. Pursuant to the Side Letter, UST did request and receive from MTNV an additional $1,300,000 to be added to the Account. As of July, 1993, the Account was valued at approximately $2.4 million.

UST represents that another important consideration was the fact that a relatively small portion of the Plan's assets was invested in the Stock. The Plan's actuarial report as of March 31, 1990, indicated that the Plan had assets with an aggregate fair market value of $55,027,000. Thus, the Plan's investment of $5 million in the Stock represented only 9.09% of the Plan's assets.

A final consideration by UST was the Put Option. UST considered the Put Option important in its determination of the prudence of the investment since UST would have the option to sell the Stock back to MTNV at a price no less than the purchase price.

UST further represents that it engaged Jones, Day, Reavis & Pogue (Jones) as its legal counsel at the time UST began its consideration of the transaction. UST represents that Jones has extensive experience in all matters relating to the Act and has special expertise in matters relating to employer securities. Attorneys from Jones actively participated in the due diligence and analysis carried out by UST. UST represents that it was advised by Jones that the procedures UST followed in determining whether to purchase the Stock were consistent with UST's fiduciary obligations under the Act.

Finally, UST represents that it exercised the Put Option on July 9, 1993, and sold 294,086 shares of the Stock to MTNV at the Put Option price of $13.0627 per share, for a total amount

of $3,841,557.19.[2] The Plan has now disposed of all the 382,769 shares of the Stock that it originally acquired, for a purchase price of $5 million, on September 28, 1990.[3] The Plan has received total proceeds of $5,205,171 from its sales of the 382,769 shares of the Stock.

Two of the interested persons who commented on the proposed exemption requested a public hearing, and three others suggested that a hearing might be helpful. The Department has considered the concerns expressed by these individuals and UST's written response addressing such concerns, and, on the basis of the materials provided, has determined not to hold a public hearing.

Accordingly, after careful consideration of the entire exemption record, including the written comments submitted by interested persons, the written response to the comments in which UST detailed its procedures for analyzing and approving the subject transactions, and the safeguards provided to the Plan in connection with the transactions, the Department has determined to grant the exemption as it was proposed.

FOR FURTHER INFORMATION CONTACT: Gary H. Lefkowitz of the Department, telephone (202) 219–8881. (This is not a toll-free number.)

Meister-Neiberg Defined Benefit Pension Plan (the Plan) Located in South Elgin, Illinois [Prohibited Transaction Exemption 93–51; Application No. D–9306].

Exemption

The restrictions of section 406(a), 406(b)(1) and (b)(2) of the Act and the sanctions resulting from the application of section 4975 of the Code, by reason of section 4975(c)(1)(A) through (E) of the Code, shall not apply to the proposed series of loans (the Loans), originated within a five year period, by the Plan to Meister-Neiberg Company, Inc. (the Employer) and Kingsport Development, Inc. (Kingsport), an affiliate of the Employer, parties in interest with respect to the Plan; provided that the following conditions are met:

(a) The amount of the Plan's assets involved in the Loans does not exceed 25% of the Plan's total assets at any time during the transactions;

(b) All terms and conditions of the Loans are at least as favorable to the Plan as those which the Plan could obtain in an arm's-length transaction with an unrelated party;

(c) An independent, qualified fiduciary determines on behalf of the Plan that each Loan is feasible, in the best interests of the Plan as an investment for the Plan's portfolio, and protective of the Plan and its participants and beneficiaries; and

(d) The independent, qualified fiduciary monitors compliance by the Employer and Kingsport with the terms and conditions of the Loans throughout the duration of the transactions, taking any action necessary to safeguard the Plan's interest, and monitors compliance by all parties with the terms and conditions of the exemption.

Temporary Nature of Exemption

The exemption will expire five years after the date the Final Grant of this exemption is published in the **Federal Register**. Subsequent to the expiration of this exemption, the Plan may hold Loans originated during this five year period until the Loans are repaid or otherwise terminated. Should the applicant wish to continue entering into any Loans beyond the five year period, the applicant may submit another application for exemption. At such time, the applicant must demonstrate: (i) whether and how compliance with the exemption has been achieved; (ii) the number of Loans engaged in under the exemption; and (iii) the particular decisions made by the independent fiduciary for the Plan regarding the Loans.

For a more complete statement of the facts and representations supporting the Department's decision to grant this exemption, refer to the notice of proposed exemption published on June 9, 1993 at 58 FR 32371.

FOR FURTHER INFORMATION CONTACT: Mr. E.F. Williams of the Department, telephone (202) 219–8883. (This is not a toll-free number.)

Main Urology Associates, P.C. Profit Sharing Plan and Main Urology Associates, P.C. Money Purchase Pension Plan (together, the Plans); Located in Buffalo, New York [Prohibited Transaction Exemption 93–52; Exemption Application Nos. D–9310 and D–9311].

Exemption

The restrictions of sections 406(a), 406(b)(1) and (b)(2) of the Act and the sanctions resulting from the application of section 4975 of the Code, by reason of section 4975(c)(1)(A) through (E) of the Code, shall not apply to a loan of $420,000 (the Loan) by the individual accounts of four participants in the Plans (the Accounts) to G.H.W.A. Realty Company (GHWA), a party in interest with respect to the Plans; provided the following conditions are satisfied:

(A) All terms of the Loan are at least as favorable to the Plans as those which the Plans could obtain in an arm's-length transaction with an unrelated party; (B) For the duration of the Loan, each Account's participation in the Loan does not exceed twenty-five percent of the net assets of the Account at any time; (C) For the duration of the Loan, the Plans' interests with respect to the Loan are represented by Mr. Franklin Pack, an independent fiduciary who will monitor and enforce GHWA's compliance with the Loan terms and the conditions of this exemption; and (D) Upon the making of the Loan and for its duration, the Loan is secured by a perfected lien on real property having a fair market value of no less than 150% of the sum of the outstanding principal balance of the Loan and the outstanding balance of any liens superior to the Loan.

For a more complete statement of the facts and representations supporting the Department's decision to grant this exemption, refer to the notice of proposed exemption published on June 9, 1993 at 58 FR 32373.

FOR FURTHER INFORMATION CONTACT: Ronald Willett of the Department, telephone (202) 219–8881. (This is not a toll-free number.)

General Information

The attention of interested persons is directed to the following:

(1) The fact that a transaction is the subject of an exemption under section 408(a) of the Act and/or section 4975(c)(2) of the Code does not relieve a fiduciary or other party in interest or disqualified person from certain other provisions to which the exemptions does not apply and the general fiduciary responsibility provisions of section 404 of the Act, which among other things require a fiduciary to discharge his duties respecting the plan solely in the interest of the participants and beneficiaries of the plan and in a prudent fashion in accordance with section 404(a)(1)(B) of the Act; nor does it affect the requirement of section 401(a) of the Code that the plan must operate for the exclusive benefit of the employees of the employer maintaining the plan and their beneficiaries;

(2) These exemptions are supplemental to and not in derogation of, any other provisions of the Act and/or the Code, including statutory or administrative exemptions and transactional rules. Furthermore, the fact that a transaction is subject to an administrative or statutory exemption is not dispositive of whether the

[2] The Stock was trading on the open market for less than the Put Option price on July 9, 1993.

[3] The balance of the shares subject to the Put Option were previously sold on the open market for an average price of $15.50 per share, or a profit of $2.44 per share (see representation 11 of the Notice of Proposed Exemption).

transaction is in fact a prohibited transaction; and

(3) The availability of these exemptions is subject to the express condition that the material facts and representations contained in each application accurately describes all material terms of the transaction which is the subject of the exemption.

Signed at Washington, DC, this 29th day of July, 1993.

Ivan Strasfeld,

Director of Exemption Determinations, Pension and Welfare Benefits Administration, U.S. Department of Labor.

[FR Doc. 93–18542 Filed 8–3–93; 8:45 am]

BILLING CODE 4510-29-P

[Application No. D–8787 et al.]

Proposed Exemptions; Standard Bank Employees Profit Sharing Plan et al.

AGENCY: Pension and Welfare Benefits Administration, Labor.

ACTION: Notice of Proposed Exemptions.

SUMMARY: This document contains notices of pendency before the Department of Labor (the Department) of proposed exemptions from certain of the prohibited transaction restriction of the Employee Retirement income Security Act of 1974 (the Act) and/or the Internal Revenue Code of 1986 (the Code).

Written Comments and Hearing Requests

All interested persons are invited to submit written comments or request for a hearing on the pending exemptions, unless otherwise stated in the Notice of Proposed Exemption, within 45 days from the date of publication of this **Federal Register** Notice. Comments and request for a hearing should state: (1) The name, address, and telephone number of the person making the comment or request, and (2) the nature of the person's interest in the exemption and the manner in which the person would be adversely affected by the exemption. A request for a hearing must also state the issues to be addressed and include a general description of the evidence to be presented at the hearing. A request for a hearing must also state the issues to be addressed and include a general description of the evidence to be presented at the hearing.

ADDRESSES: All written comments and request for a hearing (at least three copies) should be sent to the Pension and Welfare Benefits Administration, Office of Exemption Determinations, Room N–5649, U.S. Department of Labor, 200 Constitution Avenue NW., Washington, DC 20210. Attention: Application No. stated in each Notice of Proposed Exemption. The applications for exemption and the comments received will be available for public inspection in the Public Documents Room of Pension and Welfare Benefits Administration, U.S. Department of Labor, Room N–5507, 200 Constitution Avenue NW., Washington, DC 20210.

Notice to Interested Persons

Notice of the proposed exemptions will be provided to all interested persons in the manner agreed upon by the applicant and the Department within 15 days of the date of publication in the **Federal Register**. Such notice shall include a copy of the notice of proposed exemption as published in the **Federal Register** and shall inform interested persons of their right to comment and to request a hearing (where appropriate).

SUPPLEMENTARY INFORMATION: The proposed exemptions were requested in applications filed pursuant to section 408(a) of the Act and/or section 4975(c)(2) of the Code, and in accordance with procedures set forth in 29 CFR part 2570, subpart B (55 FR 32836, 32847, August 10, 1990). Effective December 31, 1978, section 102 of Reorganization Plan No. 4 of 1978 (43 FR 47713, October 17, 1978) transferred the authority of the Secretary of the Treasury to issue exemptions of the type requested to the Secretary of Labor. Therefore, these notices of proposed exemption are issued solely by the Department.

The applications contain representations with regard to the proposed exemptions which are summarized below. Interested persons are referred to the applications on file with the Department for a complete statement of the facts and representations.

Standard Bank Employees Profit Sharing Plan (the Plan); Located in Evergreen Park, Illinois [Application No. D–8787].

Proposed Exemption

The Department is considering granting an exemption under the authority of section 408(a) of the Act and section 4975(c)(2) of the Code and in accordance with the procedures set forth in 29 CFR part 2570, subpart B (55 FR 32836, 32847, August 10, 1990).

Part I. Purchases of Residential Mortgage Notes

If the exemption is granted, the restrictions of sections 406(a), 406 (b)(1) and (b)(2) of the Act and the sanctions resulting from the application of section 4975 of the Code, by reason of section 4975(c)(1) (A) through (E) of the Code, shall not apply for a period of five years to the prospective purchases by the Plan of certain residential mortgage notes (the Notes) from Standard Bank and Trust Company (the Employer), a party in interest with respect to the Plan; provided that the following conditions are satisfied:

(1) The independent fiduciary will decide which Notes will be purchased for the Plan;

(2) Only first mortgage Notes will be purchased by the Plan;

(3) The Notes purchased by the Plan will have: (a) a borrower payment history with the Employer of at least three months; (b) a maximum 15 year maturity; and (c) the loan to value ratio of the collateral of at least 150% of the principal amount of the Note;

(4) If the mortgage loan is an original acquisition mortgage loan, the Note will not exceed two-thirds of the lower of the purchase price or of the appraised value of the collateral mortgaged by the borrower to the Employer to secure the Note;

(5) If the mortgage loan is a refinancing of the original acquisition mortgage loan, the Note will not exceed two-thirds of the appraised value of the collateral mortgaged by the borrower to the Employer to secure the Note;

(6) No more than twenty-five percent of the value of the Plan's total assets will be invested in the Notes;

(7) No more than ten percent of the value of the Plan's total assets will be invested in any one Note or Notes to any one borrower;

(8) The independent fiduciary states that the fees received by him for serving in the independent fiduciary capacity to the Plan with respect to the transactions described herein, combined with any other fees derived from the Employer or related parties will not exceed one percent (1%) of his gross annual income for each fiscal year that he continues to serve in the independent fiduciary capacity with respect to the transactions described herein;

(9) With respect to past prohibited purchases of Notes (the Prohibited Notes) by the Plan from the Employer, the Employer has filed form 5330 (return of Initial Excise Taxes for Pension Plans and Profit Sharing Plans) with the Internal Revenue Service (the IRS) and has the paid the excise taxes for the period beginning in 1985 and including the year 1991; and

(10) The Employer will file form 5330 and pay excise taxes for the year 1992, with respect to the Prohibited Notes, thirty (30) days after publication of the final grant for this pending exemption in the **Federal Register.**

Part II. Repurchases of Residential Mortgage Notes

If the exemption is granted, the restrictions of sections 406(a), 406 (b)(1) and (b)(2) of the Act and the sanctions resulting from the application of section 4975 of the Code, by reason of section 4975(c)(1) (A) through (E) of the Code, shall not apply to the possible repurchases of the Notes (the Repurchases) by the Employer: (a) in the event of default; (b) if the limitations set forth in Part I (6) and/or (7) are exceeded; and (c) at other times as determined by the independent fiduciary,[1] provided that the Repurchases will be at a price which is equal to the greater of the outstanding principal balance plus accrued interest through the date of repurchase or, the current fair market value as determined by the independent fiduciary.

Temporary Nature of the Exemption

The proposed exemption is temporary and, if granted, will expire five years after the date of the grant. The Employer may repurchase the Notes from the Plan after the five-year period so long as the Notes were purchased by the Plan during the five-year period.

Summary of Facts and Representations

The Plan is a profit sharing plan, which, as of December 31, 1990, had approximately 184 participants and $3,217,157 in total assets. The Plan is comprised of the employees of Standard Bank and Trust Company of Evergreen Park, Illinois, and Standard Bank and Trust Company of Hickory Hills, Illinois. The Plan trustee and administrator is Standard Bank and Trust Company located at 2400 West 95th Street, Evergreen Park, Illinois. The Plan is audited on an annual basis by Deloitte & Touche, a certified public accounting firm. The Employer is a licensed Illinois State bank, and is a recognized mortgage lender. The Employer is a member of the Federal Deposit Insurance Corporation (FDIC), and is examined annually by the Illinois Commissioner of Banks and every eighteen months by the FDIC.

2. Among its banking activities, the Employer is a mortgage lender wherein it makes loans to borrowers to purchase a residential dwelling unit (RDU) or to refinance mortgage loans on the RDU. The borrower signs or guarantees a mortgage note payable to the Employer secured with a mortgage or a trust deed and, if appropriate, an assignment of rents recorded against the RDU. In the case of a purchase or refinancing, an appraisal is obtained from a certified independent appraiser establishing the market value of the RDU being pledged as collateral for the mortgage note. A title insurance policy insuring the first and paramount lien of the mortgage on the RDU is obtained from a licensed title insurance company, and hazard insurance is also obtained naming the Employer as a mortgagee. In compiling its mortgage portfolio, the Employer reviews the following criteria:

(a) The credit record of the borrower showing that the borrower is a good credit risk and has a record of paying bills in a timely manner;

(b) A verification of the borrower's employment or source of income, indicating that the gross income is adequate to service the mortgage debt;

(c) The ratio of mortgage payments to borrower's income; and

(d) An appraisal by a certified independent appraiser establishing the market value of the RDU to be pledged as collateral for the mortgage note.

3. It is represented that during the years 1985 and 1986, the Employer sold five mortgage notes to the Plan (collectively, the Prohibited Notes). Two of the Prohibited Notes were paid off by the borrowers on August 2, 1991, and April 24, 1992, respectively. The other three Prohibited Notes were repurchased by the Employer on December 31, 1992. In this regard, the Employer paid the Plan the principal balance plus interest through the date of repurchase. The Employer has also filed form 5330 (return of Initial Excise Taxes for Pension Plans and Profit Sharing Plans) with the IRS and has paid excise taxes for the period beginning in 1985 and including the year 1991, with respect to the Prohibited Notes. It is represented that the Employer will file form 5330 and pay appropriate excise taxes for the year 1992, thirty days after the date the final grant for this pending exemption appears in the **Federal Register**.

4. The Employer now proposes to prospectively sell certain other Notes originated by the Employer to the Plan.[2] William J. Duffner (Mr. Duffner), CPA, of Evergreen Park, Illinois, will serve as an independent fiduciary with respect to the proposed transactions and will have discretion regarding any prospective purchases of the Notes by the Plan. Mr. Duffner is currently self-employed as a Certified Public Accountant as well as a real estate and financial consultant. Mr. Duffner and the accounting firm Duffner & Company, P.C. provide a wide range of services including, but not limited to, investment analysis of pension and profit sharing plans, Keoghs and individual retirement accounts, and assistance in residential mortgage and land title matters. Mr. Duffner represents that he is unrelated to the Plan and the Employer and that he is educated, trained and experienced in mortgage matters. Mr. Duffner represents that by virtue of his education and experience he is qualified to serve as an independent fiduciary for transactions described herein. Mr. Duffner has been advised by legal counsel as to the duties and responsibilities of an ERISA fiduciary and assumes those responsibilities in regard to the transactions described herein. Mr. Duffner also states that the fees received by him for serving in the independent fiduciary capacity to the Plan combined with any other fees derived from the Employer or related parties will not exceed one percent (1%) of his gross annual income for each fiscal year that he continues to serve as independent fiduciary.

5. As the independent fiduciary, Mr. Duffner will verify information, review documents and make computations as necessary for each proposed sale of a Note. The Notes will represent original acquisition mortgage loans or mortgage loan refinancing. The Notes will be first mortgage Notes and will be seasoned, that is, have a borrower payment history of at least three months with the Employer. The Notes to be offered to the Plan will be selected by the Employer. However, Mr. Duffner will have discretion with respect to whether a purchase of the Notes will be made by the Plan. Prior to any prospective purchase by the Plan, Mr. Duffner will review alternative Plan investments. Mr. Duffner will determine whether a specific Note is a good investment for the Plan. In this regard, he will review the Employer's credit and security files maintained on the specific mortgage loan evidenced by the Note to ascertain:

(a) The borrower's employment or source of income by reference to

[1] The Department notes that if a violation of any of the terms and conditions of Part I occurs, the exemptive relief provided by Part I for purchases of the Notes by the Plan will no longer be available. However, the Department further notes that the loss of exemption under Part I will not affect the use of Part II to dispose of the Notes previously acquired by the Plan pursuant to the exemption.

[2] The Department notes that the general standards of fiduciary conduct under section 404 of the Act require that a fiduciary discharge his duties regarding a plan solely in the interest of the plan's participants and beneficiaries and in a prudent fashion. Specifically, section 404(a)(1)(C) provides that a fiduciary shall diversify the investments of the plan so as to minimize the risk of large losses, unless under the circumstances it is clearly prudent not to do so. Accordingly, no relief is provided herein from any of the provisions of section 404 by virtue of the granting of this exemption.

borrower's financial statement, loan application and tax information;

(b) The ratio of mortgage payments to borrower's income;

(c) The credit worthiness and payment history of the borrower by reference to credit, employment and financial information;

(d) That the borrower is not an employee of the Employer and is independent of the Plan and the Employer[3]; and

(e) Any required guaranty or assignment of rents.

The fiduciary will also review any relevant documents to assure:

(f)(1) In cases where the mortgage loan is an original acquisition mortgage loan, that the Note does not exceed two-thirds of the lower of the purchase price or of the appraised value of the RDU mortgaged by the borrower to the Employer to secure the Note;

(2) In cases where the mortgage loan is a refinancing of the original acquisition mortgage loan, that the Note does not exceed two-thirds of the appraised value of the RDU mortgaged by the borrower to the Employer to secure the Note;

(g) That the Note has been seasoned for at least three months and is secured by a first mortgage on a single-family RDU and specifies a maximum fifteen (15) year maturity with a fixed interest rate per annum on the principal balance;

(h) That a title insurance policy has been issued to the Employer insuring the mortgage on the RDU as a first and paramount lien and designating the Employer, its successors and assigns as the named insured; and

(i) That a hazard insurance policy and flood insurance policy, if applicable, have been issued insuring the Employer and its successors and assigns as mortgagee of the RDU in an amount not less than the principal amount of the Note; and

(j) That the Employer, which will service the Notes, will charge the Plan only for direct costs as permitted by section 408(b)(2) of the Act.

Mr. Duffner can also require the Employer to repurchase any Notes from the Plan to meet liquidity needs of the Plan. Such Repurchases will be for the greater of the outstanding principal balance plus accrued interest through the date of repurchase or, the current fair market value. The fair market value will be determined based on computations described herein.

[3] The Department notes that no relief is provided herein for any prohibited transactions under section 406 of the Act which would result if such borrowers were parties in interest with respect to the Plan as defined in section 3(14) of the Act.

7. On the date of the sale, Mr. Duffner will also verify that the sale price of a Note is equal to the fair market value of the Note. In this regard, Mr. Duffner will rely on the following method in determining the fair market value of the Note:

(a) The average yield of comparable RDU mortgage loans will be determined based upon the interest rates offered by direct federally insured lenders in the Employer's market area. Such interest rate information will be obtained from independent published sources or the Employer's in-house survey of mortgage loan interest rates offered by other direct federally insured lenders in the Employer's market area;

(b) the fair market value of the Note will be determined by adjusting the principal amount of the Note to a sum which will result in a yield equal to the average yield computed by reference to the published sources or the Employer's in-house survey referred to in (a). Fair market value may result in a sale at a premium or a discount from the principal balance on the Note; and

(c) once the fair market value of the Note is determined, that amount will be increased to reflect accrued interest due the Employer from the borrower through the date of the sale of the Note to the Plan, to arrive at the sale price of the Note.[4]

The Plan will then pay the Employer the sale price in cash. Any Note being evaluated by Mr. Duffner would have been originated by the Employer for its own portfolio and not as an agent for the Plan. The Plan will pay no transfer charges or other costs in relation to these transactions. It is represented that any risks and burdens involved in the origination, closing, booking and servicing of the mortgage loans will be borne by the Employer at no cost to the Plan.

8. Mr. Duffner as the independent fiduciary will be responsible for reviewing the Plan's financial statements and the Employer's compliance with the terms of the exemption as set forth in this document. With respect to Prohibited Notes, he will ensure that all IRS 5330 forms for the years 1985 through and including 1991 have been filed and any and all excise taxes duly paid, and that for the year 1992, IRS 5330 forms will be filed and any excise taxes paid, thirty days after the publication of the final grant for this pending exemption in the **Federal Register**. Mr. Duffner will ensure that no more than twenty-five percent (25%) of the fair market value of the Plan's total assets will be invested in the Notes, and that no more than ten percent (10%) of the fair market value of the Plan's total assets will be invested in any one Note or Notes to any one borrower. In this regard, Mr. Duffner will conduct annual reviews of the total assets of the Plan in order to determine their fair market value. These reviews will take place on each anniversary date the final grant for this pending exemption is published in the **Federal Register**. If on those occasions, the fair market value of the Notes in the Plan's portfolio exceeds either the 25% or the 10% limitation as set forth herein, Mr. Duffner will require the Employer to repurchase any Notes pursuant to Part II of this exemption. Such Repurchases will be completed within thirty (30) days of each annual review and will be at a price which is equal to the greater of the outstanding principal balance plus accrued interest through the date of repurchase or, the fair market value of the Notes on the date of review. Furthermore, Mr. Duffner will monitor the Employer's mortgage loan servicing department to assure the receipt of monthly payments of principal and interest due on each Note purchased by the Plan, and the remission of such payments to the Plan.

9. Mr. Duffner will also monitor the Plan's rights in default situations. In this regard, the Employer has agreed to repurchase any Note which is delinquent for three consecutive monthly payments of principal and interest at a price equal to the unpaid principal balance on the Note plus accrued interest through the date of the Repurchase. Such Repurchase shall occur not later than the last business day of the third consecutive month of uncured principal and interest payment default. Also, the Employer will remit to the Plan any late fees assessed and collected from the borrower. Mr. Duffner represents that a Note in default always has a fair market value not greater than the unpaid principal balance plus accrued interest through the date of repurchase. As such, he will

[4] When determining the purchase price to the Plan of a Note originated by the Employer, the independent fiduciary will consider prepaid interest in the form of origination fees or points charged to the borrower by the Employer and retained by the Employer. Origination fees or points will be considered in the comparison of the nominal yield of the Note to the average yield in the Employer's market area for comparable residential dwelling unit mortgage loans offered by other federally insured lenders. The average yield figures from other federally insured lenders will include prepaid interest in the form of origination fees or points. By making this comparison, any prepaid interest in the form of origination fees or points retained by the Employer will be considered in the computation of the purchase price of the Note to the Plan when the purchase price of the Note is adjusted to reflect an average market yield.

not do any fair market value computations for the Repurchases in the event of default, however, he will verify the accuracy of the sums received by the Plan.

10. Mr. Duffner has determined that the purchase by the Plan of the Notes is administratively feasible, protective and in the interest of the Plan. He represents that due to market conditions Plan assets are invested in debt instruments and certificates of deposits returning substantially lower yields than the Notes. Traditionally, mortgage note investments have certain inherent risks. The Notes are not subject to those risks due to the Employer's obligation to Repurchase any Notes in default. Also, the independent fiduciary can require the Employer to Repurchase any Notes from the Plan in order to satisfy the Plan's liquidity needs and to maintain compliance with the 25% and 10% limitations as set forth in Part I of this exemption. Mr. Duffner therefore concludes that acquisition of the Notes by the Plan will result in higher earnings for the Plan. The Employer and Mr. Duffner understand that the effectiveness of the exemption, if granted, is dependent on the compliance with the terms of the exemption as set forth herein including any limitations, restrictions or other conditions imposed on such exemption. Furthermore, the Employer and Mr. Duffner understand that in the event that unanticipated circumstances reduce the assets of the Plan to the extent that a violation of any of the terms and conditions of the exemption results, the relief provided by the exemption will no longer be available.

11. In summary, the applicant represents that the proposed transactions will satisfy the statutory criteria of section 408(a) of the Act and section 4975(c)(2) of the Code because:

(1) The independent fiduciary will decide which Notes will be purchased for the Plan;

(2) Only first mortgage Notes will be purchased by the Plan;

(3) The Notes purchased by the Plan will have: (a) a borrower payment history with the Employer of at least three months; (b) a maximum 15 year maturity; and (c) the loan to value ratio of the collateral of at least 150% of the principal amount of the Note;

(4) In the case of an original acquisition mortgage loan, the Note will not exceed two-thirds of the lower of the purchase price or of the appraised value of the collateral mortgaged by the borrower to the Employer to secure the Note;

(5) In the case of a refinancing of the original acquisition mortgage loan, the Note will not exceed two-thirds of the appraised value of the collateral mortgaged by the borrower to the Employer to secure the Note;

(6) In the event of a default and/or if the limitations described in (7) and (8) below are exceeded, the independent fiduciary can require the Employer to repurchase any Notes sold to the Plan. Such Repurchases will be at a price which is equal to the greater of the outstanding principal balance plus accrued interest through the date of repurchase or, the current fair market value;

(7) No more than twenty-five percent of the value of the Plan's total assets will be invested in the Notes;

(8) No more than ten percent of the value of the Plan's total assets will be invested in any one Note or Notes to any one borrower; and

(9) The effectiveness of Part I or Part II of this exemption, if granted, is dependent on the compliance with the terms of the exemption as set forth herein, including any limitations, restrictions or conditions imposed on Part I or Part II of such exemption.

FOR FURTHER INFORMATION CONTACT: Ekaterina A. Uzlyan of the Department, telephone (202) 219–8883. (This is not a toll-free number.)

Atlanta Beverage Co. 401(k) Profit Sharing Plan (the Plan); Located in Atlanta, Georgia [Application No. D–9320]

Proposed Exemption

The Department is considering granting an exemption under the authority of section 408(a) of the Act and section 4975(c)(2) of the Code and in accordance with the procedures set forth in 29 CFR Part 2570, Subpart B (55 FR 32836, 32847, August 10, 1990). If the exemption is granted, the restrictions of sections 406(a) and 406(b)(1) and (2) of the Act and the sanctions resulting from the application of section 4975 of the Code, by reason of section 4975(c)(1)(A) through (E) of the Code, shall not apply to the sale for cash of certain mutual fund shares from the Plan to Atlanta Beverage Co. (the Employer), a party in interest with respect to the Plan, provided that the following conditions are met:

1. The terms of the sale are at least as favorable as those the Plan could obtain in an arm's-length transaction with an unrelated party;

2. The price paid for the shares will be equal to the offer price for the shares as published in the Wall Street Journal on the date of the sale;

3. The Employer pays all cash for the shares; and

4. The Plan pays no expenses or transaction costs in regard to the sale.

Summary of Facts and Representations

1. The Employer, a Georgia general partnership, is a wholesale beer distributor. The Plan is a profit sharing plan which had 396 participants and total assets of $20,892,814 as of August 31, 1992. Two of the three managing partners of the Employer are also trustees of the Plan. IDS Trust is the asset manager for the Plan.

2. During 1991 and 1992, the Plan invested a portion of its assets in shares of three publicly traded mutual funds. As of August 31, 1992, the Plan had invested $1,317,818 in the Lord Abbett Government Fund, $1,851,470 in the Washington Mutual American Fund and $1,000,015 in the MFS Worldwide Governments Trust. The total cost to the Plan of purchasing the shares as of that date accordingly amounted to $4,169,303. All three funds are listed daily in the Mutual Fund Quotations section of the Wall Street Journal. The applicant represents that there is no relation between any of the mutual funds and either the Employer or the asset manager of the Plan. The shares were purchased through Shearson Lehman and Robinson-Humphrey.

3. The Plan now desires to become a section 404(c) plan within the meaning of regulation 29 CFR 2550.404c–1 of the Department and to comply with all the relevant requirements of that regulation. For example, each Plan participant is to be given the opportunity to choose from a broad range of investment alternatives. Toward this objective, the trustees of the Plan have been advised by various financial groups that certain assets of the Plan must be converted into cash.

Accordingly, the Plan proposes to sell the above named mutual fund shares to the Employer. The Employer will pay the offer price for the shares as published in the Wall Street Journal at the time of sale. The applicant represents that the Plan would otherwise have to redeem the shares at the net asset value, which is a lower amount. To illustrate, at the close of trading on May 11, 1993, the shares owned by the Plan (for the three funds combined) had a total net asset value of $4,498,133. The total offer price for the shares was $4,743,021. The difference is $244,888 which represents the amount the Plan would have saved on that date by not redeeming the shares at net asset value. The sale will be a one-time transaction for cash and the Plan will incur no expenses in regard to the transaction.

4. In summary, the applicant represents that the proposed transaction will satisfy the statutory criteria of section 408(a) of the Act because: (1)

The sale of the mutual fund shares will be entirely for cash, allowing the Plan to further its objective of becoming a section 404(c) plan; (2) the prices of the shares for each of the three mutual funds are published daily in the Wall Street Journal; (3) the Employer will pay the offer price for the shares at the time of sale; and (4) the Plan would receive only the net asset value, a lower amount, in an ordinary redemption of the shares.

FOR FURTHER INFORMATION CONTACT: Paul Kelty of the Department, telephone (202) 219–8883. (This is not a toll-free number.)

IDS Financial Corporation (IDS); Located in Minneapolis, Minnesota [Application No. D–9152].

Proposed Exemption

The Department is considering granting an exemption under the authority of section 408(a) of the Act and section 4975(c)(2) of the Code and in accordance with the procedures set forth in 29 CFR part 2570, subpart B (55 FR 32836, 32847, August 10, 1990). If the exemption is granted, the restrictions of section 406(a) of the Act and the sanctions resulting from the application of section 4975 of the Code, by reason of section 4975(c)(1)(A) through (D) of the Code, shall not apply to the guarantee against loss (the Guarantee) by IDS or its affiliates (together, the Applicants) of money invested with the Applicants by employee benefit plans (the Plans), provided: (a) The fees paid by the Plans to the Applicants for the Guarantees are not more than reasonable compensation for such Guarantees; (b) the decision to purchase the Guarantees will be made for each Plan by a Plan fiduciary who is independent of the Applicants; (c) the individually managed portfolios and collective investment funds that will be subject to the Guarantee will be invested in products whose prices are quoted daily and thus can be objectively valued; and (d) all terms and conditions of the Guarantee will be fully disclosed in a written document which will be distributed to any Plan investing in the Guarantee.

Summary of Facts and Representations

1. IDS, a wholly owned subsidiary of American Express Company, is an investment adviser registered under the Investment Advisers Act of 1940, and a broker-dealer registered under the Securities Exchange Act of 1934. IDS serves as investment manager or investment adviser to 32 registered investment companies (Funds) and to IDS Certificate Company, a wholly owned subsidiary of IDS that is the largest issuer of face-amount certificates in the United States (i.e., securities representing obligations of the issuer to pay a stated or determinable sum or sums at a fixed or determinable date or dates more than 24 months after the security is issued). As of April 30, 1992, the 32 publicly-offered Funds advised by IDS had aggregate assets of over $26 billion, and IDS Certificate Company had approximately $3.9 billion in assets. As of May 8, 1992, IDS had over 2,100 employees.

2. IDS Financial Services, Inc. (IDSFS), a wholly owned subsidiary of IDS, has 176 division offices in 49 states and the District of Columbia. IDSFS is a registered broker-dealer and investment adviser that serves as principal underwriter for the 32 Funds advised by IDS and for life insurance and variable annuity contracts issued by IDS Life Insurance Company of New York (another IDS affiliate) and for IDS Certificate Company. As of May 8, 1992, IDSFS had 2,344 employees.

3. IDS Advisory Group, Inc. (IDS Advisory), is a registered investment adviser and a wholly owned subsidiary of IDS. IDS Advisory's principal line of business is providing investment advice to large tax-exempt institutions, including Plans. As of December 31, 1991, IDS Advisory served as investment adviser to Plans holding approximately $7.4 billion in assets. Since January 1, 1991, IDS Advisory has also provided investment management services for AMEX Life Assurance Company, AMEX Centurion Life and Accident Company and AMEX Assurance Company. As of March 31, 1992, IDS Advisory had 50 employees.

4. IDS Bank and Trust (IDS Bank), a trust company with banking powers and a wholly owned subsidiary of IDS, offers a variety of trust services and products. IDS Bank is regulated by the Minnesota Department of Commerce (Banking Division) and by the Federal Deposit Insurance Corporation. It is not a member of the Federal Reserve System. IDS Bank's banking division currently engages in making loans and accepting time deposits, but does not offer demand deposits. Through its trust division, IDS Bank maintains a series of 20 collective investment funds for the investment of Plan assets. As of December 31, 1991, the collective funds had approximately $2.38 billion in assets. Through its trust division, IDS Bank also offers trustee, custodial and record keeping services for Plans, as well as investment management services to its fiduciary clients and to the collective funds it maintains. As of December 31, 1991, IDS Bank had 291 employees, 267 of whom performed services for the trust division.

5. The Applicants, as described above, serve as investment managers to Plans, within the meaning of Act section 3(38), through investment management agreements, or through collective investment funds offered by IDS Bank. The Applicants are requesting an exemption to provide any of their client Plans the opportunity to invest in an individualized portfolio of investments that carries with it an option to purchase a Guarantee to give security to the Plan and its participants. IDS would, in addition, like to provide a Guarantee of the total value of amounts invested in one or more of IDS Bank's collective investment funds or group trusts. IDS Bank determines the composition of the portfolios subject to the Guarantee, regardless of whether they are individual portfolios or the collective investment funds.

6. The fees associated with the proposed IDS Guarantee would operate as follows. A Plan fiduciary would have the choice to invest either through an IDS collective investment trust (CIF) maintained by IDS Bank, or through an individually managed portfolio. The Applicants represent that in either event, the investment philosophy would be to minimize risk to the Plan's portfolio through hedging of investments. The fee for asset management and custodial services in the collective investment fund is 35 basis points annually, payable quarterly. The fee for individualized asset management is 40–50 basis points annually, also payable quarterly, which reflects the additional risk of the investment portfolio where a custodian other than IDS Bank settles all trades.

7. The CIF will invest primarily in securities issued or guaranteed as to principal and interest by the U.S. government or its agencies or instrumentalities. Allowable securities will include U.S. Treasury bonds, notes and bills, securities of the Government National Mortgage Association, and obligations of the Federal Home Loan Banks, Federal National Mortgage Association and the Federal Home Loan Mortgage Corporation. It is anticipated that a significant portion of the CIF's assets will consist of U.S. government securities representing part ownership in pools of mortgage loans. A portion of the CIF's assets will be maintained in cash and cash equivalents. In addition, the CIF may also invest in bank certificates of deposit, time deposits, banker's acceptances and letters of credit issued by banks, as well as highly rated commercial paper. The CIF may use financial futures contracts and

options on such contracts for purposes of hedging its investments.[5]

8. With respect to the individually managed portfolios, the Applicants represent that some or all of the cash therein may be invested in the IDS Trust Collective Short-Term U.S. Government Securities Fund or other short-term investment funds, provided such short-term funds invest primarily in the kinds of investment instruments which meet the portfolio's objectives and provided that such investments are authorized by the Plan fiduciary.

9. With respect to the individually managed portfolios, the Guarantee offered to the Plan will be purchasable in advance on a quarterly basis. Under the Guarantee, a Plan will not incur a negative aggregate total return on its investments in the portfolio during any quarter covered by the Guarantee, as measured against the value of the portfolio on the first day of that quarter. Total return is the sum of interest income and market appreciation less depreciation before payment of any fees. The Applicants represent that the individual portfolios and the CIFs that will be subject to the Guarantee will be invested in products whose prices are publicly quoted daily and thus can be objectively valued. A Plan's portfolio will be valued quarterly, and, at the close of business on the last day of each quarter, IDS will pay to the Plan an amount sufficient to restore the Plan's guaranteed investment to the fair market value of the investment as of the date the Guarantee commenced. There is no guaranteed rate of return under the proposed program. Plans will be allowed to increase or decrease the amount subject to the Guarantee only as of these quarterly valuation dates. A Plan can alter the investment instructions or terminate the investment management agreement with 90 days notice. While the Guarantee could, in theory, be canceled by the Plan prior to the end of the 90-day period, there would be no proration of the Guarantee fee. A Plan may purchase the Guarantee on all or a portion of the amount of its investment in the individual portfolio. If the Plan wishes to Guarantee only a portion of the individual portfolio, the Plan specifies the portion to be subject to the Guarantee. In such case, any losses in that portion would be guaranteed 100%, and no part of the rest of the portfolio would be guaranteed. All gains in the guaranteed portion of the portfolio would be used to offset losses in that portion of the portfolio; the Guarantee would only be paid if the total value of the Plan's guaranteed portfolio fell below the guaranteed level as of the valuation date.[6] If the performance of a portfolio during a quarter triggers the payment of the Guarantee, the portfolio is valued with the addition of the Guarantee for purposes of determining the value of the portfolio at the beginning of the next quarter. In other words, the Guarantee is added to the basis assigned to the guaranteed portfolio.

10. Regardless of whether the Plan fiduciary chooses the CIF as a vehicle or chooses individual asset management, the fee for the Guarantee is the same: 15 basis points of the amount guaranteed annually, payable quarterly. In the case of the CIF, the Guarantee fee cannot be netted against yield or taken out of the CIF, but must instead be paid separately, either by the Plan sponsor or through Plan assets. In the case of the individually managed portfolios, the Guarantee fee will be paid either directly by the Plan sponsor or from the portion of the portfolio that is not subject to the Guarantee. The Guarantee will, in the case of both the CIFs and the individual portfolios, be purchasable on a quarterly basis, and may be dropped effective at the beginning of any calendar quarter with 90 days prior notice.

11. Under the Guarantee, a Plan will not incur a negative total return on its guaranteed investment in the CIF during any quarter covered by the Guarantee. Total return, as in the case of the individually managed portfolios, is the sum of interest income and market appreciation less depreciation before the payment of any fees. The CIF will be valued quarterly, and, at the end of each quarter, IDS will pay to the investing Plan an amount sufficient to restore the Plan's guaranteed investment to the fair market value of the investment as of the date the Guarantee was purchased.[7] As in the case of the individually managed portfolios, the CIF would be valued with the addition of the Guarantee for purposes of determining the value of the CIF at the beginning of the next quarter. Plans will be allowed to invest additional amounts or withdraw from the CIF only as of these quarterly valuation dates. Thus, the Guarantee, once purchased, is effective until the end of the quarter. A Plan may purchase the Guarantee on all or a portion of the amount of its investment in the CIF. If the Plan wishes to Guarantee only a portion of the CIF, the Plan specifies the percentage to be subject to the Guarantee. The Guarantee would only be paid if the total value of the Plan's guaranteed portion of the CIF units fell below the guaranteed level as of the valuation date.[8]

12. In summary, the Applicants represent that the proposed transaction satisfies the criteria of section 408(a) of the Act because: a) the Plan will be provided with the option of protecting the total value of its investment; b) the proposed exemption will not apply unless all fees paid by the Plans for the Guarantees constitute no more than reasonable compensation; and c) any decision to purchase a Guarantee will be made on behalf of a Plan by a fiduciary who is independent of the Applicants.

FOR FURTHER INFORMATION CONTACT: Gary H. Lefkowitz of the Department, telephone (202) 219–8881. (This is not a toll-free number.)

Anesthesia Associates of Kansas City, Inc. Profit Sharing Plan (the Plan); Located in Kansas City, Missouri [Application No. D–9401]

Proposed Exemption

The Department is considering granting an exemption under the authority of section 408(a) of the Act and section 4975(c)(2) of the Code and in accordance with the procedures set forth in 29 CFR Part 2570, Subpart B (55 FR 32836, August 10, 1990). If the

[5] The Applicants represent that financial futures contracts may be used for hedging purposes only and not for speculation. Futures contracts may be used to hedge portfolio positions, anticipated interest rate changes or other aspects of portfolio risk. The CIF may also use futures contracts as an anticipatory hedge. The Applicants represent that in buying and selling futures contracts, the CIF will at all times abide by the regulations of the Commodity Future Trading Commission defining hedging. The Applicants further represent that at no time will futures contracts be used to leverage the CIF's portfolio. In addition, the Applicants represent that they will use an unaffiliated broker for the purchase of any futures contracts.

[6] For example, if a Plan fiduciary decides to invest $100 million with IDS in an individually managed portfolio and desires a Guarantee with respect to 25% of that portfolio, IDS would segregate $25 million and invest those assets in investments suitable for the Guarantee. The Guarantee would run only to that part of the portfolio, and if the value of that part of the portfolio fell below $25 million, the Guarantee would be paid, regardless of whether the rest of the portfolio had increased or decreased in value.

[7] For example, if a Plan invested $5 million in a CIF on the first day of a quarter which was worth $4 million on the last day of the quarter, the CIF would credit the Plan's investment in the CIF with an additional $1 million as of the last day of the quarter, or apply such amount to other Plan investments, as directed by the Plan fiduciary.

[8] For example, a Plan fiduciary may decide to invest $10 million in a CIF, and to purchase a Guarantee for $4 million. The result of that decision would be that as of the evaluation date next following the investment, the $4 million investment would be valued, and if it had decreased in value below $4 million, the Guarantee would be paid. Thus, the guaranteed portion of the Plan's investment would be separately accounted for, and the value of the non-guaranteed portion of the Plan's investment in the CIF would have no bearing on whether the Guarantee would be paid.

exemption is granted, the restrictions of section 406(a), 406(b)(1) and (b)(2) of the Act and the sanctions resulting from the application of section 4975 of the Code, by reason of section 4975(c)(1)(A) through (E) shall not apply to the proposed sale (the Sale) from Arthur P. Vogel, M.D.'s (Dr. Vogel) individually-directed account (the Account) in the Plan of certain stock (the Stock) to Dr. Vogel, a party in interest with respect to the Plan.

This proposed exemption is conditioned upon the following requirements: (1) the Sale is a one-time cash transaction; (2) the Plan is not required to pay any commissions, costs or other expenses in connection with this transaction; (3) the Stock is appraised by a qualified, independent appraiser; and (4) the sales price for the Stock reflects its fair market value on the date of the Sale.

Summary of Facts and Representations

1. The Plan is a profit sharing plan sponsored by Anesthesia Associates of Kansas City, Inc. (the Employer), which as of April 2, 1993, had 108 participants. The Plan provides for individually-directed accounts by participants. As of December 31, 1991, the Plan had total assets of $17,631,603.70 and the Account had total assets of $863,483. The trustees of the Plan are Donald E. McIntosh, M.D., George A. Edwards, M.D. and Adrian J. Delaney, Jr. D.O., all of whom are shareholders of the Employer. The Employer provides anesthesia and other related services to hospital and ambulatory surgery centers in Kansas and Missouri.

2. The Stock consists of 50,000 shares of common stock of NetWorx, Inc. (NetWorx), a closely-held Washington corporation engaged in developing and marketing computer network management software products. The Stock was originally purchased by the Account from NetWorx on December 20, 1991 for $500 or one (1) cent per share.

3. In order that the Plan may divest itself of illiquid assets, Dr. Vogel requests an administrative exemption from the Department to purchase the Stock for cash from the Account for its fair market value on the date of the Sale. Dr. Vogel represents that he does not currently own any NetWorx stock in an individual capacity and, therefore, will not have a controlling interest after the Sale. Because the Sale would be between Dr. Vogel and the Account, the accounts of the other Plan participants would not be affected. The Plan will not be required to pay any commissions, costs or other expenses in connection with these transactions.

4. Tony Leung (Mr. Leung), an accredited senior appraiser with Corporate Advisory Associates, Inc. (Corporate Advisory), valued the Stock. Mr. Leung represents that both he and Corporate Advisory Associates, Inc. are unrelated to and independent of the Employer. In an appraisal dated March 29, 1993, Mr. Leung states that the Stock represents a minority interest in NetWorx and, based upon this minority interest, the value of the Stock is $22,500 or forty-five (45) cents per share.

In letters dated May 20, 1993 and July 14, 1993, Mr. Leung describes certain factors he considered in determining the value per share of the Stock. Mr. Leung states that around the valuation date, NetWorx was in need of a capital infusion in order to continue its operations. Mr. Leung represents that such capital infusion was uncertain. Accordingly, Mr. Leung valued the Stock based on the two possible scenarios: with and without the necessary capital. Mr. Leung states that he utilized the discounted future cash flow and future values methods to value the Stock, assuming a capital infusion. Under these approaches, the value per share of the Stock was estimated at seventy-four (74) cents and $1.11, respectively. Mr. Leung averaged these two figures to arrive at an overall value of ninety-three (93) cents per share assuming a capital infusion. Mr. Leung represents that without the required capital infusion, the value of the Stock would be zero after the prior claims of the preferred stock. Because there were no definite prospects regarding the needed capital, Mr. Leung assigned a fifty (50) percent probability to each scenario. Therefore considering both scenarios, Mr. Leung utilized the probability weighted value of forty-five (45) cents per share. Based upon the aforementioned appraisal, the Account will sell the Stock to Dr. Vogel for $22,500.

5. In summary, it is represented that the proposed transaction will satisfy the statutory criteria for an exemption under section 408(a) of the Act because: (a) the Sale will represent a one-time cash transaction; (b) the Plan will not be required to pay any commissions, costs or other expenses in connection with this transaction; (c) the Stock has been appraised by a qualified, independent appraiser; and (d) the sales price for the Stock will reflect its fair market value on the date of the Sale.

FOR FURTHER INFORMATION CONTACT: Ms. Kathryn Parr of the Department, telephone (202) 219-8971. (This is not a toll-free number.)

General Information

The attention of interested persons is directed to the following:

(1) The fact that a transaction is the subject of an exemption under section 408(a) of the Act and/or section 4975(c)(2) of the Code does not relieve a fiduciary or other party in interest of disqualified person from certain other provisions of the Act and/or the Code, including any prohibited transaction provisions to which the exemption does not apply and the general fiduciary responsibility provisions of section 404 of the Act, which among other things require a fiduciary to discharge his duties respecting the plan solely in the interest of the participants and beneficiaries of the plan and in a prudent fashion in accordance with section 404(a)(1)(b) of the act; nor does it affect the requirement of section 401(a) of the Code that the plan must operate for the exclusive benefit of the employees of the employer maintaining the plan and their beneficiaries;

(2) Before an exemption may be granted under section 408(a) of the Act and/or section 4975(c)(2) of the Code, the Department must find that the exemption is administratively feasible, in the interests of the plan and of its participants and beneficiaries and protective of the rights of participants and beneficiaries of the plan;

(3) The proposed exemptions, if granted, will be supplemental to, and not in derogation of, any other provisions of the Act and/or the Code, including statutory or administrative exemptions and transitional rules. Furthermore, the fact that a transaction is subject to an administrative or statutory exemption is not dispositive of whether the transaction is in fact a prohibited transaction; and

(4) The proposed exemptions, if granted, will be subject to the express condition that the material facts and representations contained in each application are true and complete, and that each application accurately describes all material terms of the transaction which is the subject of the exemption.

Signed at Washington, DC, this 29th day of July, 1993.

Ivan Strasfeld,

Director of Exemption Determinations, Pension and Welfare Benefits Administration, U.S. Department of Labor.

[FR Doc. 93-18543 Filed 8-3-93; 8:45 am]

BILLING CODE 4510-29-P

NATIONAL SCIENCE FOUNDATION

Collection of Information Submitted for OMB Review

In accordance with the Paperwork Reduction Act and OMB Guidelines, the National Science Foundation is posting a notice of information collection that will affect the public. Interested persons are invited to submit comments by August 31, 1993. Comments may be submitted to:

(A) *Agency Clearance Officer.* Herman G. Fleming, Division of Personnel and Management, National Science Foundation, Washington, DC 20550, or by telephone (202) 357–7335. Copies of materials may be obtained at the above address or telephone. Comments may also be submitted to:

(B) *OMB Desk Officer.* Office of Information and Regulatory Affairs, ATTN: Dan Chenok, Desk Officer, OMB, 722 Jackson Place, Room 3208, NEOB, Washington, DC 20503.

Title: Survey of Innovation in Manufacturing.

Affected Public: Businesses or other for-profit and Small businesses or organizations.

Respondents/Reporting Burden. 1,000 respondents; One hour per response.

Abstract: This pilot survey of 1,000 companies is designed as a test for a full-scale measure survey on innovation activities in the manufacturing sector. The primary focus of the pilot study is to test procedures, operations, analytical methodology, and the validity of the questionnaire and the survey response.

Dated: July 30, 1993.

Herman G. Fleming,

Reports Clearance Officer.

[FR Doc. 93–18538 Filed 8–3–93; 8:45 am]

BILLING CODE 7555–01–M

Office of Polar Programs; Permit Issued Under the Antarctic Conservation Act of 1978

AGENCY: National Science Foundation.

ACTION: Notice of permits issued under the Antarctic Conservation Act of 1978, Public Law 95–541.

SUMMARY: The National Science Foundation (NSF) is required to publish notice of permits issued under the Antarctic Conservation Act of 1978. This is the required notice.

FOR FURTHER INFORMATION CONTACT: Thomas F. Forhan, Permit Office, Office of Polar Programs, National Science Foundation, Washington, DC 20550.

SUPPLEMENTARY INFORMATION: On July 1, 1993 the National Science Foundation published a notice in the **Federal Register** of permit applications received. Permits for taking/importing and entering specially protected area, were issued to William R. Fraser on July 29, 1993.

Guy G. Guthridge,

Permit Office, Office of Polar Programs.

[FR Doc. 93–18530 Filed 8–3–93; 8:45 am]

BILLING CODE 7555–01–M

NUCLEAR REGULATORY COMMISSION

Biweekly Notice

Applications and Amendments to Facility Operating Licenses Involving No Significant Hazards Considerations

I. Background

Pursuant to Public Law 97-415, the U.S. Nuclear Regulatory Commission (the Commission or NRC staff) is publishing this regular biweekly notice. Public Law 97-415 revised section 189 of the Atomic Energy Act of 1954, as amended (the Act), to require the Commission to publish notice of any amendments issued, or proposed to be issued, under a new provision of section 189 of the Act. This provision grants the Commission the authority to issue and make immediately effective any amendment to an operating license upon a determination by the Commission that such amendment involves no significant hazards consideration, notwithstanding the pendency before the Commission of a request for a hearing from any person.

This biweekly notice includes all notices of amendments issued, or proposed to be issued from July 12, 1993, through July 23, 1993. The last biweekly notice was published on July 21, 1993 (58 FR 39046).

Notice of Consideration of Issuance of Amendments to Facility Operating Licenses, Proposed No Significant Hazards Consideration Determination, and Opportunity for a Hearing

The Commission has made a proposed determination that the following amendment requests involve no significant hazards consideration. Under the Commission's regulations in 10 CFR 50.92, this means that operation of the facility in accordance with the proposed amendment would not (1) involve a significant increase in the probability or consequences of an accident previously evaluated; or (2) create the possibility of a new or different kind of accident from any accident previously evaluated; or (3) involve a significant reduction in a margin of safety. The basis for this proposed determination for each amendment request is shown below.

The Commission is seeking public comments on this proposed determination. Any comments received within 30 days after the date of publication of this notice will be considered in making any final determination.

Normally, the Commission will not issue the amendment until the expiration of the 30-day notice period. However, should circumstances change during the notice period such that failure to act in a timely way would result, for example, in derating or shutdown of the facility, the Commission may issue the license amendment before the expiration of the 30-day notice period, provided that its final determination is that the amendment involves no significant hazards consideration. The final determination will consider all public and State comments received before action is taken. Should the Commission take this action, it will publish in the **Federal Register** a notice of issuance and provide for opportunity for a hearing after issuance. The Commission expects that the need to take this action will occur very infrequently.

Written comments may be submitted by mail to the Rules Review and Directives Branch, Division of Freedom of Information and Publications Services, Office of Administration, U.S. Nuclear Regulatory Commission, Washington, DC 20555, and should cite the publication date and page number of this **Federal Register** notice. Written comments may also be delivered to Room P-223, Phillips Building, 7920 Norfolk Avenue, Bethesda, Maryland from 7:30 a.m. to 4:15 p.m. Federal workdays. Copies of written comments received may be examined at the NRC Public Document Room, the Gelman Building, 2120 L Street, NW., Washington, DC 20555. The filing of requests for a hearing and petitions for leave to intervene is discussed below.

By September 3, 1993, the licensee may file a request for a hearing with respect to issuance of the amendment to the subject facility operating license and any person whose interest may be affected by this proceeding and who wishes to participate as a party in the proceeding must file a written request for a hearing and a petition for leave to intervene. Requests for a hearing and a petition for leave to intervene shall be filed in accordance with the Commission's "Rules of Practice for Domestic Licensing Proceedings" in 10 CFR Part 2. Interested persons should consult a current copy of 10 CFR 2.714 which is available at the Commission's

Public Document Room, the Gelman Building, 2120 L Street, NW., Washington, DC 20555 and at the local public document room for the particular facility involved. If a request for a hearing or petition for leave to intervene is filed by the above date, the Commission or an Atomic Safety and Licensing Board, designated by the Commission or by the Chairman of the Atomic Safety and Licensing Board Panel, will rule on the request and/or petition; and the Secretary or the designated Atomic Safety and Licensing Board will issue a notice of a hearing or an appropriate order.

As required by 10 CFR 2.714, a petition for leave to intervene shall set forth with particularity the interest of the petitioner in the proceeding, and how that interest may be affected by the results of the proceeding. The petition should specifically explain the reasons why intervention should be permitted with particular reference to the following factors: (1) the nature of the petitioner's right under the Act to be made a party to the proceeding; (2) the nature and extent of the petitioner's property, financial, or other interest in the proceeding; and (3) the possible effect of any order which may be entered in the proceeding on the petitioner's interest. The petition should also identify the specific aspect(s) of the subject matter of the proceeding as to which petitioner wishes to intervene. Any person who has filed a petition for leave to intervene or who has been admitted as a party may amend the petition without requesting leave of the Board up to 15 days prior to the first prehearing conference scheduled in the proceeding, but such an amended petition must satisfy the specificity requirements described above.

Not later than 15 days prior to the first prehearing conference scheduled in the proceeding, a petitioner shall file a supplement to the petition to intervene which must include a list of the contentions which are sought to be litigated in the matter. Each contention must consist of a specific statement of the issue of law or fact to be raised or controverted. In addition, the petitioner shall provide a brief explanation of the bases of the contention and a concise statement of the alleged facts or expert opinion which support the contention and on which the petitioner intends to rely in proving the contention at the hearing. The petitioner must also provide references to those specific sources and documents of which the petitioner is aware and on which the petitioner intends to rely to establish those facts or expert opinion. Petitioner must provide sufficient information to show that a genuine dispute exists with the applicant on a material issue of law or fact. Contentions shall be limited to matters within the scope of the amendment under consideration. The contention must be one which, if proven, would entitle the petitioner to relief. A petitioner who fails to file such a supplement which satisfies these requirements with respect to at least one contention will not be permitted to participate as a party.

Those permitted to intervene become parties to the proceeding, subject to any limitations in the order granting leave to intervene, and have the opportunity to participate fully in the conduct of the hearing, including the opportunity to present evidence and cross-examine witnesses.

If a hearing is requested, the Commission will make a final determination on the issue of no significant hazards consideration. The final determination will serve to decide when the hearing is held.

If the final determination is that the amendment request involves no significant hazards consideration, the Commission may issue the amendment and make it immediately effective, notwithstanding the request for a hearing. Any hearing held would take place after issuance of the amendment.

If the final determination is that the amendment request involves a significant hazards consideration, any hearing held would take place before the issuance of any amendment.

A request for a hearing or a petition for leave to intervene must be filed with the Secretary of the Commission, U.S. Nuclear Regulatory Commission, Washington, DC 20555, Attention: Docketing and Services Branch, or may be delivered to the Commission's Public Document Room, the Gelman Building, 2120 L Street, NW., Washington DC 20555, by the above date. Where petitions are filed during the last 10 days of the notice period, it is requested that the petitioner promptly so inform the Commission by a toll-free telephone call to Western Union at 1-(800) 248-5100 (in Missouri 1-(800) 342-6700). The Western Union operator should be given Datagram Identification Number N1023 and the following message addressed to (Project Director): petitioner's name and telephone number, date petition was mailed, plant name, and publication date and page number of this Federal Register notice. A copy of the petition should also be sent to the Office of the General Counsel, U.S. Nuclear Regulatory Commission, Washington, DC 20555, and to the attorney for the licensee.

Nontimely filings of petitions for leave to intervene, amended petitions, supplemental petitions and/or requests for a hearing will not be entertained absent a determination by the Commission, the presiding officer or the Atomic Safety and Licensing Board that the petition and/or request should be granted based upon a balancing of factors specified in 10 CFR 2.714(a)(1)(i)-(v) and 2.714(d).

For further details with respect to this action, see the application for amendment which is available for public inspection at the Commission's Public Document Room, the Gelman Building, 2120 L Street, NW., Washington, DC 20555, and at the local public document room for the particular facility involved.

Carolina Power & Light Company, et al., Docket No. 50-400, Shearon Harris Nuclear Power Plant, Unit 1, Wake and Chatham Counties, North Carolina

Date of amendment request: July 16, 1993

Description of amendment request: The proposed amendment revises Technical Specifications 3/4.2.1, 3/4.2.2, 6.9.1.6, and associated Bases to incorporate references to the Siemens Power Corporation (SPC) methodologies that will support the transition from Westinghouse-supplied fuel to SPC-supplied fuel. Specifically:

1. Changes are proposed to Technical Specification 3/4.2.1, Axial Flux Difference, Technical Specification 3/4.2.2., Heat Flux Hot Channel Factor, and associated Bases to incorporate the use of the Siemens PDC-3 methodology for power distribution control. The specific Technical Specification changes reflect the manner in which target axial flux difference (AFD) will be controlled and how the associated penalties to the measured heat flux hot channel factor are applied.

2. Technical Specification 6.9.1.6 will be revised to update the Core Operating Limits Report (COLR) reference section to incorporate the appropriate SPC generic methodology used to establish the limits provided in the COLR. This revision incorporates references to three SPC methodologies that are currently under review by the NRC staff (EMF-92-081, EMF-92-153, and XN-NF-82-49).

Basis for proposed no significant hazards consideration determination: As required by 10 CFR 50.91(a), the licensee has provided its analysis of the issue of no significant hazards consideration, which is presented below:

1. The proposed amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated.

a. The accidents previously evaluated in the Final Safety Analysis Report (FSAR) are

unchanged by the proposed revisions to Technical Specifications 3/4.2.1 and 3/4.2.2. The plant systems, including excore and incore hardware and general methods of operation (i.e., axial power distribution control) are not affected by the proposed changes; plant procedures (except that Base Load is no longer an option) and allowed action times for limiting conditions for operation are unchanged.

b. The proposed incorporation of reference changes in the Core Operating Limits Report (COLR) does not involve changes or additions to plant equipment. The referenced methodologies are used to evaluate the consequences of the changes in fuel design according to NRC approved requirements. These consequences must satisfy the specified acceptable fuel design limits, the radiological limits, and the loss of coolant limits as defined by the NRC. These limits continue to be met.

2. The proposed amendment does not create the possibility of a new or different kind of accident from any accident previously evaluated.

a. The proposed amendment replaces one approved methodology with another (PDC-3). These methodologies are designed to provide the same function, control of axial flux difference, so that existing analyses remain valid.

b. The incorporation of references in the COLR does not create precursors to a new kind of accident.

3. The proposed amendment does not involve a significant reduction in the margin of safety.

a. The proposed changes to Technical Specifications 3/4.2.1, 3/4.2.2, and associated Bases do not affect parameters that relate to the margin of safety as defined in the Technical Specifications.

b. The incorporation of references in the Core Operating Limits Report (COLR) does not impact the parameters that relate to the margin of safety as defined in the Technical Specifications.

The NRC staff has reviewed the licensee's analysis and, based on this review, it appears that the three standards of 10 CFR 50.92(c) are satisfied. Therefore, the NRC staff proposes to determine that the amendment request involves no significant hazards consideration.

Local Public Document Room location: Cameron Village Regional Library, 1930 Clark Avenue, Raleigh, North Carolina 27605.

Attorney for licensee: R. E. Jones, General Counsel, Carolina Power & Light Company, Post Office Box 1551, Raleigh, North Carolina 27602NRC Acting Project Director: S. Singh Bajwa

Duke Power Company, et al., Docket Nos. 50-413 and 50-414, Catawba Nuclear Station, Units 1 and 2, York County, South Carolina

Date of amendment request: January 25, 1993, as supplemented May 12, 1993

Description of amendment request: The proposed amendments would revise the Technical Specifications (TS) to increase the surveillance test intervals (STI), allowed outage time (AOT), and channel bypass times for certain instrumentation in the Reactor Trip System (RTS) and Engineered Safety Features Actuation System (ESFAS). The acceptability of these TS changes has previously been reviewed by the NRC staff in response to the Westinghouse Owners Group's submittal of a topical report, WCAP-10271, and supplements and revisions to that report. The NRC staff's first SER dated February 21, 1985, on WCAP-10271 through Supplement 1 addressed only analog channels for the RTS. The staff found that an acceptable basis had been provided to (a) increase the STI from once per month to once per quarter, (b) increase the time that an inoperable channel could be maintained in the untripped condition from 1 to 6 hours, (c) increased the time that an inoperable channel could be in bypass to facilitate surveillance testing of a channel from 2 hours to 4 hours, and (d) allow routine testing in a bypassed condition instead of in a tripped condition. Duke Power did not apply for condition (d) and it will not be considered further in this review.

The staff's next SER on WCAP-10271 through Supplement 2, Revision 1, dated February 22, 1989, found the following acceptable: (a) increase the STI for ESFAS analog channels from 1 to 3 months, (b) increase the AOTs for ESFAS analog channels from 2 to 4 hours, (c) increase the AOTs for testing all components in solid state systems to 4 hours, (d) increase the AOT for maintenance of all logic components to 12 hours and (e) other changes not applicable to Catawba.

The staff's SER of April 30, 1990, reported completion of the review of Appendix D of WCAP-10271, Supplement 2, Revision 1, and approval of a 4-hour AOT for testing and a 12-hour AOT for maintenance, instead of 2 and 6 hours respectively, for the RTS logic cabinets. RTS channel, STI, and AOT extensions similar to those given for ESFAS channels were also approved.

The NRC staff's evaluation letter of July 24, 1985, provided marked up TS pages to reflect implementation of these changes in a sample set of TS.

Basis for proposed no significant hazards consideration determination: As required by 10 CFR 50.91(a), the licensee has provided its analysis of the issue of no significant hazards consideration, which is presented below:

Criterion 1—Operation of Catawba in accordance with the proposed license amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated. The determination that the results of the proposed changes are within all acceptable criteria was established in the SERs prepared for WCAP-10271, WCAP-10271 Supplement 1, WCAP-10271 Supplement 2, and WCAP-10271 Supplement 2, Revision 1 issued by letters dated February 21, 1985, February 22, 1989, and April 30, 1990. Implementation of the proposed changes is expected to result in an acceptable increase in total RTS yearly unavailability. This increase, which is primarily due to less frequent surveillance, results in an increase of similar magnitude in the probability of an Anticipated Transient Without Scram (ATWS) and in the probability of core melt resulting from an ATWS and also results in a small increase in core damage frequency (CDF) due to ESFAS unavailability.

Implementation of the proposed changes is expected to result in a significant reduction in the probability of core melt from inadvertent reactor trips. This is a result of a reduction in the number of inadvertent reactor trips occuring [sic] during testing of RTS instrumentation. For Catawba, this reduction is primarily attributable to less frequent surveillance.

The reduction in core melt frequency from inadvertent reactor trips is sufficiently large to counter the increase in ATWS core melt probability resulting in an overall reduction in total core melt probability.

The values determined by the WOG [Westinghouse Owners Group] and presented in the WCAP for the increase in CDF were verified by Brookhaven National Laboratory (BNL) as part of an audit and sensitivity analysis for the NRC staff. Based on the small value of the increase compared to the range of uncertainty in the CDF, the increase is considered acceptable.

Changes to surveillance test frequencies for the RTS interlocks do not represent a significant reduction in testing. The currently specified test interval for interlock channels allows the surveillance requirement to be satisfied by verifying that the permissive logic is in its required state using the annunciator status light. The surveillance as currently required only verifies the status of the permissive logic and does not address verification of channel setpoint or operability. The setpoint verification and channel operability are verified after a refueling shutdown. The definition of the channel check includes comparison of the channel status with other channels for the same parameter. The requirement to routinely verify permissive status is a different consideration than the availability of trip or actuation channels which are required to change state on the occurrence of an event and for which the function availability is more dependent on the surveillance interval. The change in surveillance requirement to at least once every refueling does not therefore represent a significant change in channel surveillance and does not involve a significant increase in unavailability of the RTS.

The proposed changes do not result in an increase in the severity or consequences of an

accident previously evaluated.
Implementation of the proposed changes affects the probability of failure of the RTS but does not alter the manner in which protection is afforded nor the manner in which limiting criteria are established.

Criterion 2—The proposed license amendment does not create the possibility of a new or different kind of accident from any accident previously evaluated.

The proposed changes do not result in a change in the manner in which the RTS provides plant protection. No change is being made which alters the functioning of the RTS. Rather, the likelihood or probability of the RTS functioning properly is affected as described above. Therefore, the proposed changes do not create the possibility of a new or different kind of accident.

Since Duke Power Company is not proposing to conduct routine channel testing in bypass for Catawba, no hardware changes are necessary to support testing in the bypass mode.

Criterion 3—The proposed license amendment does not involve a significant reduction in a margin of safety.

The proposed changes do not alter the manner in which safety limits, limiting safety system setpoints, or limiting conditions for operation are determined. The impact of reduced testing other than as addressed above is to allow a longer time interval over which instrument uncertainties (e.g., drift) may act. Experience has shown that the initial uncertainty assumptions are valid for reduced testing.

Implementation of the proposed changes is expected to result in an overall improvement in safety by:

1) Less frequent testing will result in fewer inadvertent reactor trips and actuation of Engineered Safety Features Actuation System components.

2) Higher quality repairs leading to improved equipment reliability due to longer allowable repair times.

3) Improvements in the effectiveness of the operating staff in monitoring and controlling plant operation. This is due to less frequent distraction of the operator and shift supervisor to attend to instrumentation testing.

The foregoing analysis demonstrates that the proposed amendment to Catawba's Technical Specifications does not involve a significant increase in the probability or consequences of a previously evaluated accident, does not create the possibility of a new or different kind of accident, and does not involve a significant reduction in a margin of safety.

Based upon the preceding analysis, Duke Power Company concludes that the proposed amendment does not involve a significant hazards consideration.

The staff notes that the licensee's analysis presented above addresses only the changes to the RTS for Criteria 1 and 2. In order to supplement this analysis, reference is made as follows to conclusions made in the referenced NRC staff SERs. The effect of changes in the RTS analog channel STI and AOTs was addressed in the SER of February 21, 1985, wherein the staff reached the following conclusion regarding the probability of an accident core damage frequency (CDF):

Overall, the staff concludes that the change in RTS unavailability is very small, as is the reduction in core damage frequency coming from inadvertent trips. Therefore, the staff agrees with the Westinghouse Owners Group conclusion for the proposals being considered. That is, the changes in core damage frequency and risk are quite small compared to the error in the probabilistic estimate and, therefore, insignificant. Therefore, the staff concludes that the proposed changes are acceptable.

The effect of changes in the ESFAS analog channels and the ESFAS actuation logic tests was addressed in the SER of February 22, 1989, wherein the staff reached the following conclusion regarding the probability of an accident:

The staff concludes, therefore, that an overall upper bound for the core damage frequency (CDF) increase due to the proposed STI/AOT change is less than 6% for Westinghouse PWR plants. The staff also concludes that actual CDF increases for individual plants are expected to be substantially less than 6%. The staff considers this CDF increase to be small compared to the range of uncertainty in the CDF analyses and therefore acceptable.

The effect of changes in the RTS actuation logic AOTs was addressed in the SER of April 30, 1990, wherein the staff reached the following conclusion regarding the probability of an accident CDF:

The amended results clearly indicate that in Cases 2 and 3, there is a net reduction in CDF. Based upon this agreement, the NRC staff concludes that the proposed longer AOTs for the RPS logic cabinets, 4 hours for test and 12 hours for maintenance, are acceptable.

On the bases cited above by the licensee relating to the RTS and the findings cited above from the staff's SERs on both the RTS and the ESFAS the staff finds that the effect on the probability of an accident (CDF) will range from a net decrease to an increase that is small and that is within acceptable values. The proposed changes do not alter the manner in which protection is afforded by the RTS or ESFAS, nor the manner in which limiting criteria are established, and accordingly, the consequences of an accident previously evaluated are not significantly increased. For the same reasons as stated above, including the licensee's discussions of Criterion 2 for the RTS, the proposed changes for the ESFAS instrumentation will not create the possibility of a new or different kind of accident.

The administrative changes to TS 3/4.3.1 and 3/4.3.2 to delete obsolete footnotes and information pertaining to the now completed modification of the nuclear service water system suction transfer logic, do not involve a significant increase in the probability or consequences of an accident previously evaluated. These footnotes refer to matters that were reviewed and approved prior to their inclusion in the TS. Their removal, upon completion of the subject action, is administrative as it improves the readibility of the TS. For the same reasons, their removal does not create the possibility of a new or different kind of accident from any accident previously evaluated, or involve a significant reduction in a margin of safety.

On the bases stated above, it appears that the three standards of 10 CFR 50.92(c) are satisfied and the NRC staff proposes to determine that the amendment request involves no significant hazards consideration.

Local Public Document Room location: York County Library, 138 East Black Street, Rock Hill, South Carolina 29730

Attorney for licensee: Mr. Albert Carr, Duke Power Company, 422 South Church Street, Charlotte, North Carolina 28242

NRC Project Director: David B. Matthews

Duke Power Company, et al., Docket Nos. 50-413 and 50-414, Catawba Nuclear Station, Units 1 and 2, York County, South Carolina

Date of amendment request: February 25, 1993, as supplemented May 20, 1993

Description of amendment request: The proposed amendments would revise the Technical Specifications (TS) to change the frequency of reporting the quantity of each of the principal radionuclides released from the plant site to unrestricted areas in liquid and in gaseous effluents from semiannual to annual. These changes would be implemented by modifying TS Sections 1.18, 6.9.1.7, 6.13.2.a, 6.14.2.a, 6.15.a, and 6.16 as proposed by the licensee in response to amendments to 10 CFR 50.36a as noticed in the **Federal Register** (57 FR 39353) on August 31, 1992. Specifically, the title "Annual Radioactive Effluent Release Report" would be used instead of "Semiannual Radioactive Effluent Release Report."

The proposed change for TS 6.9.1.7 would also require that the Annual Radioactive Effluent Release Report covering the operation of the unit

during the previous calendar year be submitted before May 1 of each year, and that the quantity of solid waste releases be reported on an annual, rather than a semiannual, basis.

Basis for proposed no significant hazards consideration determination: As noticed in the **Federal Register** on August 31, 1992 (57 FR 39353), the NRC has amended 10 CFR 50.36a to reduce the required frequency of reporting the quantity of each principal radionuclide released to unrestricted areas in liquid and gaseous effluents from semiannual to annual. The proposed amendments would revise the TS to be consistent with the revised regulation. The reporting requirement for solid wastes is not addressed by the revised 10 CFR 50.36a. However, to be consistent with the proposed changes for liquid and gaseous effluents, the licensee proposes that the quantity of solid waste releases also be reported on an annual basis.

As required by 10 CFR 50.91(a), the licensee has provided its analysis of the issue of no significant hazards consideration, which is presented below:

The proposed revision to the frequency of the Radiological Effluent Report will not involve a significant increase in the probability or consequences of an accident previously evaluated because there will be no change in the types and amounts of effluents that will be released, nor will there be an increase in individual or cumulative occupational radiation exposures.

Implementation of the revised frequency for the Radiological Effluent Report will not create the possibility of a new or different kind of accident from any previously evaluated because the revision is administrative and will not change the types and amounts of effluents that will be released. By modifying the regulations to eliminate any unnecessary burden of duplicative or inconsistent regulatory reporting, the present margin of safety is not reduced. Accordingly, this proposed change does not involve a significant hazard.

The NRC staff has reviewed the licensee's analysis and, based on this review, it appears that the three standards of 10 CFR 50.92(c) are satisfied. Therefore, the NRC staff proposes to determine that the amendment request involves no significant hazards consideration.

Local Public Document Room location: York County Library, 138 East Black Street, Rock Hill, South Carolina 29730

Attorney for licensee: Mr. Albert Carr, Duke Power Company, 422 South Church Street, Charlotte, North Carolina 28242

NRC Project Director: David B. Matthews

Duke Power Company, Docket Nos. 50-369 and 50-370, McGuire Nuclear Station, Units 1 and 2, Mecklenburg County, North Carolina

Date of amendment request: January 13, 1993, as supplemented January 28, February 17, and April 26, 1993

Description of amendment request: The proposed amendments would revise Technical Specifications (TS) Table 2.2.1, Sections 3/4.1.2.5, 3/4.1.2.6, 3/4.5.1.1, 3/4.5.5, and their associated Bases, and TS 6.9.1/9, to relocate the values of certain cycle-dependent limits from the TS to the Core Operating Limits Report (COLR). The NRC issued Generic Letter (GL) 88-16, dated October 4, 1988, that provided guidance to licensees on requests for relocation of the values of cycle-specific parameter limits from the TS to the COLR. The licensee's proposed amendment is its second response to the guidance of that GL. The licensee's first response to the GL was dealt with in Amendment Nos. 105 and 87 for McGuire Units 1 and 2 on May 15, 1990. Therefore, the COLR is already reflected in the Definitions Section of the TS. The licensee's second response to the GL, involving the TS listed above, addressed TS that are different from those addressed in its first response.

The proposed TS would require that the subject core operating limits be determined for each reload cycle in accordance with the referenced NRC approved methodology for these limits and be consistent with the applicable limits of the safety analysis. Finally, this report and any mid-cycle revisions shall be provided to the NRC upon issuance.

Basis for proposed no significant hazards consideration determination: As required by 10 CFR 50.91(a), the licensee has provided its analysis of the issue of no significant hazards consideration, which is presented below:

This proposed amendment will not increase the probability or consequences of an accident which has been previously evaluated. The cycle specific parameters which have been identified for relocation to the COLR will be calculated using NRC approved methodology and the Technical Specifications will continue to require operation within the cycle specific parameters. For the above reasons this amendment is considered administrative, and does not increase the probability or consequences of an accident previously evaluated.

Operation in accordance with this proposed amendment will not create any failure modes not bounded by previously evaluated accidents. Therefore, this change will not create the possibility of a new or different kind of accident from any kind of accident previously evaluated.

The Technical Specifications will continue to require operation within the bounds of the cycle-specific parameter limits. The cycle-specific parameter limits will be calculated using NRC approved methodology. In addition, each future reload will require a 10 CFR 50.59 safety review to assure that operation of the unit within the cycle-specific limits will not involve a reduction in a margin of safety. Therefore, no margins of safety are affected by the relocation of cycle-specific parameter limits to the COLR.

The NRC staff has reviewed the licensee's analysis and, based on this review, it appears that the three standards of 10 CFR 50.92(c) are satisfied. Therefore, the NRC staff proposes to determine that the amendment request involves no significant hazards consideration.

Local Public Document Room location: Atkins Library, University of North Carolina, Charlotte (UNCC Station), North Carolina 28223

Attorney for licensee: Mr. Albert Carr, Duke Power Company, 422 South Church Street, Charlotte, North Carolina 28242

NRC Project Director: David B. Matthews

Duke Power Company, Docket Nos. 50-369 and 50-370, McGuire Nuclear Station, Units 1 and 2, Mecklenburg County, North Carolina

Date of amendment request: May 6, 1993

Description of amendment request: The proposed amendments would correct an error in Technical Specification Table 3.3-2 that was made with License Amendments 128 and 110.

Basis for proposed no significant hazards consideration determination: As required by 10 CFR 50.91(a), the licensee has provided its analysis of the issue of no significant hazards consideration, which is presented below:

The proposed amendment is administrative in nature in that it only restores the time response for the Steam Generator Water Level--Low-Low for Unit 1 to the [less than or equal to] 3.5 seconds. Since this had been approved in Amendment[s] 43/24, the Nuclear Regulatory Commission had previously [proposed to conclude] that the proposed change did not involve a significant hazard. There have been no changes to any of the analyses that would change this conclusion.

The NRC staff has reviewed the licensee's analysis and, based on this review, it appears that the three standards of 10 CFR 50.92(c) are satisfied. Therefore, the NRC staff proposes to determine that the amendment request involves no significant hazards consideration.

Local Public Document Room location: Atkins Library, University of

North Carolina, Charlotte (UNCC Station), North Carolina 28223

Attorney for licensee: Mr. Albert Carr, Duke Power Company, 422 South Church Street, Charlotte, North Carolina 28242

NRC Project Director: David B. Matthews

Duke Power Company, Docket Nos. 50-369 and 50-370, McGuire Nuclear Station, Units 1 and 2, Mecklenburg County, North Carolina

Date of amendment request: May 13, 1993

Description of amendment request: The amendments would reduce the maximum allowable power range neutron flux high setpoints with inoperable steam line safety valves during four loop operation.

Basis for proposed no significant hazards consideration determination: As required by 10 CFR 50.91(a), the licensee has provided its analysis of the issue of no significant hazards consideration, which is presented below:

1. Will operation of the facility in accordance with this proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?

RESPONSE: No.

The MSSVs do not contribute to the initiation of any accident. Though improper operation and malfunction of MSSVs are considered in FSAR analyses as part of accident scenarios, no change in the operation or function of the MSSVs is affected by this proposed change. ASME Code requirements for MSSV setpoint, relief capacity and operability are maintained. The high flux trip setpoint does not contribute to the initiation of any accident.

2. Will operation of the facility in accordance with this proposed change create the possibility of a new or different kind of accident from any accident previously evaluated?

RESPONSE: No.

The proposed change does not create the possibility for a new or different kind of accident than previously evaluated because the function of the MSSVs or the RPS high flux trip is not affected. The new reduction limits put the reactor in a more conservative level of operation when MSSVs are inoperable.

3. Will operation of the facility in accordance with this proposed change involve a significant reduction in a margin of safety?

RESPONSE: No.

This proposed change will maintain the reactor in a more conservative operating power level when safety valves are inoperable.

The NRC staff has reviewed the licensee's analysis and, based on this review, it appears that the three standards of 10 CFR 50.92(c) are satisfied. Therefore, the NRC staff proposes to determine that the amendment request involves no significant hazards consideration.

Local Public Document Room location: Atkins Library, University of North Carolina, Charlotte (UNCC Station), North Carolina 28223

Attorney for licensee: Mr. Albert Carr, Duke Power Company, 422 South Church Street, Charlotte, North Carolina 28242

NRC Project Director: David B. Matthews

Duke Power Company, Docket Nos. 50-269, 50-270 and 50-287, Oconee Nuclear Station, Units 1, 2 and 3, Oconee County, South Carolina

Date of amendment request: February 25, 1993, as supplemented May 20, 1993

Description of amendment request: The proposed amendments would revise the Technical Specifications (TS) to change the frequency of reporting the quantity of each of the principal radionuclides released from the plant site to unrestricted areas in liquid and in gaseous effluents from semiannual to annual. These changes would be implemented by modifying TS Sections 1.8.2, 6.1.2.1, and 6.6.1.4 as proposed by the licensee in response to amendments to 10 CFR 50.36a as noticed in the Federal Register on August 31, 1992. Specifically, the title "Annual Radioactive Effluent Release Report" would be used instead of "Semiannual Radioactive Effluent Release Report."

The proposed change for TS 6.6.1.4 would also require that the Annual Radioactive Effluent Release Report covering the operation of the unit during the previous calendar year be submitted before May 1 of each year, and that the quantity of solid waste releases be reported on an annual, rather than a semiannual, basis.

Basis for proposed no significant hazards consideration determination: As noticed in the Federal Register on August 31, 1992 (57 FR 39353), the NRC has amended 10 CFR 50.36a to reduce the required frequency of reporting the quantity of each principal radionuclide released to unrestricted areas in liquid and gaseous effluents from semiannual to annual. The proposed amendments would revise the TS to be consistent with the revised regulation. The reporting requirement for solid wastes is not addressed by the revised 10 CFR 50.36a. However, to be consistent with the proposed changes for liquid and gaseous effluents, the licensee proposes that the quantity of solid waste releases also be reported on an annual basis.

As required by 10 CFR 50.91(a), the licensee has provided its analysis of the issue of no significant hazards consideration, which is presented below:

The proposed revision to the frequency of the Radiological Effluent Report will not involve a significant increase in the probability or consequences of an accident previously evaluated because there will be no change in the types and amounts of effluents that will be released, nor will there be an increase in individual or cumulative occupational radiation exposures.

Implementation of the revised frequency for the Radiological Effluent Report will not create the possibility of a new or different kind of accident from any previously evaluated because the revision is administrative and will not change the types and amounts of effluents that will be released. By modifying the regulations to eliminate any unnecessary burden of duplicative or inconsistent regulatory reporting, the present margin of safety is not reduced.

Accordingly, this proposed change does not involve a significant hazard.

The NRC staff has reviewed the licensee's analysis and, based on this review, it appears that the three standards of 10 CFR 50.92(c) are satisfied. Therefore, the NRC staff proposes to determine that the amendment request involves no significant hazards consideration.

Local Public Document Room location: Oconee County Library, 501 West South Broad Street, Walhalla, South Carolina 29691

Attorney for licensee: J. Michael McGarry, III, Winston and Strawn, 1200 17th Street, NW., Washington, DC 20036

NRC Project Director: David B. Matthews

Duquesne Light Company, et al., Docket Nos. 50-334 and 50-412, Beaver Valley Power Station, Unit Nos. 1 and 2, Shippingport, Pennsylvania

Date of amendment request: June 17, 1993

Description of amendment request: The proposed amendment would relocate the radiological effluent technical specifications (RETS) and the solid radioactive wastes technical specifications (TS) to the offsite dose calculation manual (ODCM) or to the process control program (PCP) in accordance with the guidance provided in NRC Generic Letter 89-01 and NRC Report NUREG-1301. Programmatic controls would be incorporated into the Administrative Controls section of TS, and other editorial and definition changes would be made to facititate the relocation.

Basis for proposed no significant hazards consideration determination: As required by 10 CFR 50.91(a), the licensee has provided its analysis of the

issue of no significant hazards consideration, which is presented below:

1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated?

The proposed change does not increase the probability or consequences of an accident previously evaluated since the level of radiological effluent control remains unchanged. The limiting conditions for operation and surveillance requirements for each specification, that is being relocated, will remain unchanged. Future changes to these specifications will be controlled by the Administrative Controls Section of the TS. The level of radiological effluent control will, therefore, remain unchanged from that previously assumed in offsite dose assumptions.

Therefore, the proposed change will not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated?

There is no new or different kind of accident because this change does not modify the configuration of the facility or the manner in which plants are operated.

Therefore, the proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does the change involve a significant reduction in a margin of safety?

The proposed change does not affect the operational requirements of the facility and does not modify any methods, analysis or limits used in radiological effluent control.

Therefore, the proposed change does not involve a significant reduction in the margin of safety.

The NRC staff has reviewed the licensee's analysis and, based on this review, it appears that the three standards of 10 CFR 50.92(c) are satisfied. Therefore, the NRC staff proposes to determine that the amendment request involves no significant hazards consideration.

Local Public Document Room location: B. F. Jones Memorial Library, 663 Franklin Avenue, Aliquippa, Pennsylvania 15001.

Attorney for licensee: Gerald Charnoff, Esquire, Jay E. Silberg, Esquire, Shaw, Pittman, Potts & Trowbridge, 2300 N Street, NW., Washington, DC 20037.

NRC Project Director: Walter R. Butler

Gulf States Utilities Company, Docket No.50-458, River Bend Station, Unit 1 West Feliciana Parish, Louisiana

Date of amendment request: May 13, 1993

Description of amendment request: The proposed license amendment would remove Items 1, 2, 3, 4, 6, and 7 from Attachment 3 to NPF-47, "TDI Diesel Engines Requirements." These items contain requirements for maintenance and surveillance, crankshaft inspections, cylinder block inspections, air roll tests, turbocharger inspections, and operation beyond the first refueling outage.

Basis for proposed no significant hazards consideration determination: As required by 10 CFR 50.91(a), the licensee has provided its analysis of the issue of no significant hazards consideration, which is presented below:

1. The proposed change does not involve a significant increase in the probability or consequence of an accident previously evaluated.

The primary function of the emergency diesel generators is to provide emergency AC power to safety-related systems and components in the event of a loss of offsite power to mitigate the consequences of an accident. The conditions of the license require maintenance and inspection related activities on this equipment. These conditions were originally added to the license to compensate for the previously identified weaknesses in TDI supplied emergency diesel generators. These maintenance activities are not directly related to the safety-related operation of the emergency diesel generators; however, the current maintenance program can affect the reliability and does affect the availability of the emergency diesel generators. Maintaining high reliability and low unavailability is necessary to comply with 10 CFR 50.63, "Loss of all alternating current power," and 10 CFR 50.65, "Requirements for monitoring the effectiveness of maintenance at nuclear power plants."

The current preventive maintenance program for TDI diesel generators combines time based physical inspections and condition monitoring. The time based physical inspections by far are the largest contributor to the significant out of service time experienced during refueling outages. In addition, the requirement to perform a complete overhaul every ten years adds to this unavailability and may actually reduce the reliability of the emergency diesel generator for up to two years after the overhaul is performed. Elimination of the license conditions identified by the licensee will actually reduce the unavailability and increase the reliability of emergency diesel generators through reduced inspections and teardowns. Monitoring of the performance of the emergency diesel generators will continue to assure that high reliability is maintained. Therefore, no significant increase in the probability or consequences of an accident will occur as a result of this change.

2. The proposed change does not create the possibility of a new or different kind of accident from any previously evaluated.

The requested change does not involve a change in any system's physical configuration, and no new operating modes or possible accident scenarios are introduced. Therefore, the proposed changes do not create the possibility of a new or different kind of accident from any previously evaluated.

3. The proposed change does not involve a significant reduction in the margin of safety.

The operating history submitted to the NRC by the TDI Diesel Generator Owner's Group on December 8, 1992, documents the previous inspection results for all inspections conducted on TDI diesel generator systems. This document indicates that the TDI diesel generators have achieved a level of reliability that equals or exceeds that of emergency diesel generator systems supplied by other manufacturers. Operators of other manufacturer's emergency diesel generators do not have NRC imposed maintenance programs identified in special conditions of the plants' operating licenses. The reliability of emergency diesel generators will be maintained by the NRC through licensee conformance to 10 CFR 50.63 and 10 CFR 50.65 and as such, the risk to the health and safety of the public is not increased by this change. Therefore,the maintenance program and other activities identified in Attachment 3 to NPF-47 can be removed with no reduction in the margin of safety.

The NRC staff has reviewed the licensee's analysis and, based on this review, it appears that the three standards of 10 CFR 50.92(c) are satisfied. Therefore, the NRC staff proposes to determine that the amendment request involves no significant hazards consideration.

Local Public Document Room location: Government Documents Department, Louisiana State University, Baton Rouge, Louisiana 70803

Attorney for licensee: Mark Wetterhahn, Esq., Bishop, Cook, Purcell and Reynolds, 1401 L Street, N.W., Washington, D.C. 20005

NRC Project Director: Suzanne C. Black

Indiana Michigan Power Company, Docket No. 50-316, Donald C. Cook Nuclear Plant, Unit No. 2, Berrien County, Michigan

Date of amendment request: April 16, 1993

Description of amendment request: The proposed amendment would grant extensions for certain 18- and 36-month technical specification surveillances which are required to be performed beginning January 2, 1994. The licensee is requesting relief from these surveillances in order to extend the current cycle for Unit 2 and separate the refueling outages for Unit 1 and 2 by approximately 6 months.

Basis for proposed no significant hazards consideration determination: As required by 10 CFR 50.91(a), the licensee has provided its analysis of the issue of no significant hazards consideration. The NRC staff has reviewed the licensee's analysis against the standards of 10 CFR 50.92(c).

For the purposes of addressing the no significant hazards consideration determination the surveillances are categorized by groups. The licensee's amendment request dated April 16, 1993, contains a detailed list of the specific surveillances for which it is requesting extensions. The licensee's determination of no significant hazards is summarized below:Operation of D. C. Cook , Unit 2 in accordance with the proposed amendment does not:

(1) Involve a significant increase in the probability or consequences of an accident previously evaluated.

The first group of surveillances includes reactor trip and ESF response testing, RTD calibrations, pressurizer pressure and level calibrations and PORV calibrations, reactor vessel level indication system, rod position indication system, RHR auto-closure interlock, intermediate range detector calibrations, reactor coolant flow transmitter calibrations and ESF manual actuations. The above surveillances are associated with equipment that is also subject to a surveillance program which includes channel checks and/or functional tests, which will continue to be performed during the extension period and should ensure that these systems will perform as designed. Based on the surveillance histories of these components, the licensee believes that the equipment will continue to remain operable during the extension period. For these reasons, the licensee believes the extension will not result in a significant increase in the probability or consequences of a previously evaluated accident, nor will it result in a significant reduction in a margin of safety.

The next group of surveillances are those dealing with auxiliary feedwater pump testing. Portions of the system have successfully undergone a challenge due to a recent actuation (during a unit trip). Prior testing experience with regard to these surveillances has indicated no significant problems when the surveillances were performed. For these reasons, the licensee believes the extension will not result in a significant increase in the probability or consequences of a previously evaluated accident, nor will it result in a significant reduction in a margin of safety.

The licensee is also requesting an extension of surveillance requirements related to diesel generator testing. For the diesel-generator machinery, the extension will result only in approximately 5 additional starts and 5 to 7 additional run hours. This is considered insignificant with regard to the wear history of each machine. For the diesel-associated circuitry, the ESW automatic valves, and the PORV emergency power supply, the licensee's review of previous test data has not indicated any reason to believe the equipment would not pass the required surveillance tests with the extended interval. For these reasons, the licensee believes the extension will not result in a significant increase in the probability or consequences of a previously evaluated accident, nor will it result in a significant reduction in a margin of safety.

Another group of surveillances the licensee is requesting extensions for is the visual inspections of inaccessible snubbers. The licensee's surveillance history of visual inspections of inaccessible snubbers has found only one inoperable snubber in the past 10 years. Also, if Generic Letter 90-09 guidance were to be applied, the surveillance interval would be 48 months. Based on the above, the licensee has no reason to believe the inaccessible snubbers will be inoperable during the extension period. For these reasons, the licensee believes the extension will not result in a significant increase in the probability or consequences of a previously evaluated accident, nor will it result in a significant reduction in a margin of safety.

An extension is also being requested for the visual inspection of the divider barrier seal and removal and testing of the coupons to ensure the physical properties are within specified limits. The divider barrier seal is a passive design feature which was entirely replaced in 1990. Subsequent inspection revealed no degradation to the seal and the physical properties of the test coupons were acceptable. For these reasons, the licensee believes the extension will not result in a significant increase in the probability or consequences of a previously evaluated accident, nor will it result in a significant reduction in a margin of safety.

The licensee is also requesting an extension of the functional test performed on the reactor coolant pump fire protection system. Based on the fire protection system surveillance record, the licensee states that there is no reason to believe that the system would not be capable of performing its intended safety function. Additionally, the licensee notes that the RCP oil collection system is designed to mitigate the effects of an RCP lube oil leak. For these reasons, the licensee believes the extension will not result in a significant increase in the probability or consequences of a previously evaluated accident, nor will it result in a significant reduction in a margin of safety.

Lastly, the licensee is requesting an extension of the containment water level instrumentation calibration and the visual inspection of the containment sump and its inlets. The past history on containment water level instrumentation has not shown any significant degradation of these instruments. Typically, there is no water on the containment floor for the instruments to measure; however, the instrumentation is calibrated to read a "live" zero level. Also, there are two redundant channels that are subjected to monthly channel checks, which would show if a drift existed. The likelihood of a significant amount of debris entering the sump is very low because there are strict requirements for material control inside containment, access into the containment sump area is restricted, and an inspection of containment is performed at the end of each outage. The licensee believes that it is unlikely that the sump or its inlets could become blocked during the extension period. For these reasons, the licensee believes the extension will not result in a significant increase in the probability or consequences of a previously evaluated accident, nor will it result in a significant reduction in a margin of safety.

(2) Create the possibility of a new or different kind of accident from any previously evaluated.

The extension of the surveillance intervals will not result in any changes in plant configuration or operation. Therefore, the extensions should not create the possibility of a new or different kind of accident from any previously evaluated or analyzed.

(3) Involve a significant reduction in a margin of safety.

For the reasons cited in Criterion 1 above, the proposed changes will not result in a significant reduction in the margin of safety.

The NRC staff has reviewed the licensee's analysis and, based on this review, it appears that the three standards of 10 CFR 50.92(c) are satisfied. Therefore, the NRC staff proposes to determine that the amendment request involves no significant hazards consideration.

Local Public Document Room location: Maud Preston Palenske Memorial Library, 500 Market Street, St. Joseph, Michigan 49085

Attorney for licensee: Gerald Charnoff, Esq., Shaw, Pittman, Potts and Trowbridge, 2300 N Street, NW, Washington, DC 20037

NRC Project Director: W. M. Dean, Acting

North Atlantic Energy Service Corporation, Docket No. 50-443, Seabrook Station, Rockingham County, New Hampshire

Date of amendment request: April 23, 1993

Description of amendment request: The proposed amendment would modify the Seabrook Station Technical Specifications to allow longer surveillance test intervals and allowed outage times for the reactor protection system and the engineered safety features actuation system. The amendment also proposes removing the requirement to perform the reactor trip system analog channel operational test on a staggered basis. The changes are line item improvements previously approved by the NRC and documented in Safety Evaluations.

Basis for proposed no significant hazards consideration determination: As required by 10 CFR 50.91(a), the licensee has provided its analysis of the issue of no significant hazards consideration. The NRC staff has reviewed the licensee's analysis against the standards of 10 CFR 50.92(c). The NRC staff's review is presented below.

A. The changes do not involve a significant increase in the probability or consequences of an accident previously evaluated (10 CFR 50.92(c)(1)) because the proposed changes have been evaluated in NRC Safety Evaluations for WCAP-10271, WCAP-10271 Supplement 1, WCAP-10271 Supplement 2, and WCAP-10271 Supplement 2, Revision 1. The Safety Evaluations determined that the proposed changes are within acceptable limits.

Implementation of the proposed changes are expected to result in an acceptably low increase in total protection system unavailability.

The increase in system unavailability is primarily due to the longer time an undetected instrument drift or failure may exist. The increased system unavailability results in a small increase in core damage frequency. The change in core damage frequency was determined by the Westinghouse Owners Group and verified by Brookhaven National Laboratory for the NRC Staff. The small value of the increase compared to the range of uncertainty in the core damage frequency is considered acceptable.

The implementation of the proposed changes are also expected to result in a reduction in the number of reactor trips due to the less frequent testing of the protection system instrumentation. The reduction in the probability of reactor trips results in a small decrease in core damage frequency. The decrease in core damage frequency is similar in magnitude to and offsets the increase in core damage frequency resulting from longer surveillance intervals. The result is an insignificant change in total core damage probability.

The NRC approved the elimination of the requirement to perform analog channel operational tests on a staggered basis in the engineered safety features actuation systems Safety Evaluation Report dated February 22, 1989.

Therefore, it appears that the proposed changes do not involve a significant increase in the probability or consequences of an accident previously evaluated.

B. The proposed changes do not create the possibility of a new or different kind of accident from any accident previously evaluated (10 CFR 50.92(c)(2)) because they do not involve hardware modifications or the method by which the protection systems are tested.

C. The changes do not involve a significant reduction in a margin of safety (10 CFR 50.92(c)(3)) because the proposed changes do not alter the manner in which safety limits, limiting safety system setpoints, or limiting conditions for operation are determined. The adverse impact of reduced testing is to allow a longer time interval over which instrument uncertainties may act. Experience indicates that the initial uncertainty assumptions are valid for reduced testing.

Based on this review, it appears that the three criteria of 10 CFR 50.92(c) are satisfied. Therefore, the NRC staff proposes to determine that the proposed amendment does not involve a significant hazards consideration.

Local Public Document Room location: Exeter Public Library, 47 Front Street, Exeter, New Hampshire 03833.

Attorney for licensee: Thomas Dignan, Esquire, Ropes & Grey, One International Place, Boston Massachusetts 02110-2624

NRC Project Director: John F. Stolz

Northern States Power Company, Docket No. 50-263, Monticello Nuclear Generating Plant, Wright County, Minnesota

Date of amendment request: July 7, 1993

Description of amendment request: The proposed amendment would make changes to Technical Specification 3.6.D, "Primary System Boundary, Coolant Leakage," and the corresponding surveillance requirements. Limiting Condition for Operation 3.6.D.5 specifies requirements for operability of leakage measurement instruments associated with floor and equipment drain sumps and operability of the drywell particulate radioactivity monitoring system. The limiting condition prescribes actions to be taken when those instruments are inoperable.

The proposed amendment would add a clause to make the operability requirement applicable only when irradiated fuel is in the reactor and reactor water temperature is above 212 degrees F. With regard to the leakage measurement instruments, the proposed amendment would add a requirement that manual leak rate measurements be made once per 12 hours. The proposed amendment would require that the instruments be restored to operable status within 30 days or else shutdown would be required. The existing specification permits indefinite operation with the instruments inoperable as long as the manual leak rate measurements are performed.

The proposed amendment would create a new section 3.6.D.6 to address operability requirements for the drywell particulate radioactivity monitoring system. The amendment would require an analysis of grab samples of the primary containment atmosphere once per 12 hours instead of every 4 hours.

The proposed amendment revises the requirements for monitoring reactor coolant system leakage per NRC guidance provided in Generic Letter 88-01, Supplement 1, "NRC Position on IGSCC in BWR Austenitic Stainless Steel Piping," and NUREG-1433, "Standard Technical Specifications, General Electric Plants, BWR/4."

Surveillance requirement 4.6.D.1.a. for coolant leakage would be amended to require that unidentified and identified leakage rates be measured once per shift not to exceed 12 hours instead of once every 4 hours. The requirements to record primary containment atmosphere particulate radioactivity and drywell pressure and temperature would be eliminated.

Surveillance requirement 4.6.D.2.b. would be revised to require performance of a sensor check for the primary containment sump leakage measurement system once per shift instead of once per 4 hours as currently required.

Basis for proposed no significant hazards consideration determination: As required by 10 CFR 50.91(a), the licensee has provided its analysis of the issue of no significant hazards consideration. The NRC staff has reviewed the licensee's analysis against the standards of 50.92(c). The NRC staff's review is presented below:

a. The proposed amendment will not involve a significant increase in the probability or consequences of an accident previously evaluated.

The systems affected by the amendment detect abnormal leakage which might be indicative of an impending break in the primary coolant system. The only accident previously analyzed to which this is relevant is a loss of coolant accident (LOCA). Since the concern is avoidance of the accident rather than mitigation, the proposed changes to monitoring could affect the probability of a LOCA but not the consequences.

The licensee has made a number of improvements in the coolant system to reduce the potential for a LOCA being caused by intergranular stress corrosion cracking of piping. The licensee has incorporated the guidance of Generic Letter 88-01, Supplement 1, and NUREG-1433, into the proposed Technical Specifications (TS) governing reactor coolant system leakage monitoring. Piping susceptible to intergranular stress corrosion cracking (IGSCC) in the recirculation system, the residual heat removal system, and the core spray system has been replaced with material resistant to IGSCC, or protected with a cladding of resistant weld metal. To further reduce susceptibility to IGSCC, a hydrogen water chemistry system was placed in operation in 1988. The above actions taken to minimize the potential for crack initiation in conjunction with the leakage rates allowed by the TS and the multiple leakage indication systems available, maintain a high level of confidence in the ability to monitor reactor coolant system integrity; thus, the proposed changes will not significantly affect the probability of an accident previously evaluated.

b. The proposed amendment will not create the possibility of a new or different kind of accident from any accident previously analyzed.

The monitoring systems affected by the proposed amendment were installed to address concerns with a LOCA. Furthermore, the proposed changes do not involve equipment modifications or changes in operational limits. Only the means and frequency for confirming compliance with the limits are affected. Since there are no hardware changes proposed by the amendment, no new or different kind of accident from any previously evaluated can be postulated.

c. The proposed amendment will not involve a significant reduction in the margin of safety.

The proposed changes do not involve any modification in operational limits. Alarm functions to alert the operator of reactor coolant system leakage, and operator monitoring of key parameters is maintained at a level to assure early detection of any significant leakage. It is therefore concluded that the proposed changes will not result in any reduction in the plant's margin of safety.

Based on this review, it appears that the three standards of 10 CFR 50.92(c) are satisfied. Therefore, the NRC staff proposes to determine that the amendment request involves no significant hazards consideration.

Local Public Document Room location: Minneapolis Public Library, Technology and Science Department, 300 Nicollet Mall, Minneapolis, Minnesota 55401

Attorney for licensee: Gerald Charnoff, Esq., Shaw, Pittman, Potts and Trowbridge, 2300 N Street, NW, Washington, DC 20037

NRC Project Director: W. M. Dean, Acting

Northern States Power Company, Docket No. 50-263, Monticello Nuclear Generating Plant, Wright County, Minnesota

Date of amendment request: February 12, 1993 and March 22, 1993

Description of amendment request: The proposed amendment would make changes to Table 3.2.2, "Instrumentation That Initiates Emergency Core Cooling Systems," and Table 3.2.8, "Other Instrumentation," by correcting references to the required conditions when minimum conditions for operation are not satisfied. Surveillance Requirement 4.5.A.1, "Instrument and Containment Spray/Cooling Systems, ECCS Systems," would be changed to increase the minimum Core Spray pump flow from 2700 to 2800 gpm. The corresponding bases section would be changed to set forth the reason for the flow value. Limiting Condition for Operation 3.0.F.1.a.2, "Recirculation Systems," would be changed to refer to a table in the licensee's Core Operating Limits Report rather than to a table within the technical specifications.

The portion of the change related to increasing the required core spray pump flow from 2,700 gpm to 2,800 gpm is intended to account for the flow losses (bypass leakage paths) inherent to the emergency core cooling system (ECCS) design. Increasing the required flow rate for the core spray pumps would assure that the total flow entering the core (ECCS pump flow minus bypass leakage) during a loss of coolant accident (LOCA) is consistent with the value assumed in the analysis (SAFER/GESTR-LOCA Analysis) referenced in Chapter 14 of the Updated Safety Analysis Report for the Monticello Nuclear Generating Plant.

Technical Specification Sections 3.6 and 4.6, "Primary System Boundary," set forth limiting conditions for operation and surveillance requirements applicable to the reactor coolant system. Part E., "Safety Relief Valves," would be revised to clarify the intent of the specification with respect to automatic depressurization system (ADS) and low-low set system requirements. As presently written, Specifications 3.2.H, 3.5.A and 3.6.E cross reference each other in a manner that could lead to misinterpretation of the governing requirements for these systems. The corresponding 3.6/4.6.E Bases discussion would be further revised to clarify and correct existing statements that are both confusing and misleading. The current wording states, incorrectly, that coincident high drywell pressure and low-low water level signals initiate automatic actuation of the safety relief valves. This is no longer true because of a modification performed in response to NUREG 0737, Item II.K.3.18 (Reference: License

Amendment No. 62 dated March 31, 1989).

The remaining changes are editorial in nature and are intended primarily to correct errors that were introduced in previous License Amendments. Most of these errors resulted from License Amendment 79, dated April 9, 1991, in which Section 3.5/4.5 (Core and Containment Cooling Systems) was substantially rewritten and reorganized. Several specifications were either deleted or re-numbered at that time and related changes to associated cross-references were missed.

Basis for proposed no significant hazards consideration determination: As required by 10 CFR 50.91(a), the licensee has provided its analysis of the issue of no significant hazards consideration. The NRC staff has reviewed the licensee's analysis against the standards of 50.92(c). The NRC staff's review is presented below:

a. The proposed amendment will not involve a significant increase in the probability or consequences of an accident previously evaluated.

The core spray flow rate does not enter into the estimate of the probability of any accident previously evaluated. Core spray flow rate may affect the consequences of an accident. Increasing the required core spray pump flow rate to 2,800 gpm will make the Technical Specification consistent with the loss-of-coolant-accident analysis referenced in the Updated Safety Analysis Report for the Monticello Nuclear Generating Plant. The change is in the conservative

direction (increased emergency core cooling system flow) and should tend toward mitigation of the consequences a design basis loss of coolant accident. It should not affect the consequences of any other accident previously analyzed.

The remaining changes proposed are editorial or administrative in nature and have no impact on the probability or consequences of any accident previously evaluated.

b. The proposed amendment will not create the possibility of a new or different kind of accident from any accident previously analyzed.

The quantity of flow delivered by the core spray system does not enter into the postulation of accident scenarios. The core spray system serves to mitigate the consequence of certain accidents. Increasing the minimum flow required for the core spray system does not create the possibility of a new or different kind of accident.

The other proposed changes are editorial or administrative in nature. No safety-related equipment, safety function, or plant operation will be altered as a result of the proposed changes. Therefore, the proposed amendment does not in any way create the possibility of a new or different kind of accident from any accident previously evaluated.

c. The proposed amendment will not involve a significant reduction in the margin of safety.

The proposed amendment will not reduce the margin of safety because the required core spray pump flow is being conservatively increased so that the minimum total ECCS pump flow into the core is consistent with that utilized in the loss-of-coolant-accident analysis. The remaining changes are either editorial in nature or are based on previously reviewed and approved Technical Specifications and have no impact on the margin of safety.

Based on this review, it appears that the three standards of 10 CFR 50.92(c) are satisfied. Therefore, the NRC staff proposes to determine that the amendment request involves no significant hazards consideration.

Local Public Document Room location: Minneapolis Public Library, Technology and Science Department, 300 Nicollet Mall, Minneapolis, Minnesota 55401

Attorney for licensee: Gerald Charnoff, Esq., Shaw, Pittman, Potts and Trowbridge, 2300 N Street, NW, Washington, DC 20037

NRC Project Director: W. M. Dean, Acting

Omaha Public Power District, Docket No. 50-285, Fort Calhoun Station, Unit No. 1, Washington County, Nebraska

Date of amendment request: June 17, 1993

Description of amendment request: The proposed amendment to the Technical Specifications would implement administrative changes. Proposed changes include providing consistency with Combustion Engineering Standard Technical Specifications on refueling frequency, incorporating bases information on pressurizer safety valves, correcting typographical and grammatical problems, and correcting mistakes made in previous amendments.

Basis for proposed no significant hazards consideration determination: As required by 10 CFR 50.91(a), the licensee has provided its analysis of the issue of no significant hazards consideration, which is presented below:

The proposed changes do not involve significant hazards considerations because operation of Fort Calhoun Station Unit No. 1 in accordance with these changes does not:

(1) Involve a significant increase in the probability or consequences of an accident previously evaluated.

The proposed changes include: administrative changes to correct typographical errors and references, make the specifications consistent, provide clarifications, make changes consistent with organizational changes, or with the CE Standard Technical Specifications.

The clarification to the basis of Specification 2.1.6 provides a discussion on: the presence of water filled loop seals, the potential effects the loop seal may have on the setpoint deviation of the safety valves, and that any effect is within the results of the Updated Safety Analysis Report.

The clarification to Specification 2.2(2)d1. provides an additional requirement to maintain valve LCV-218-3 operable which is consistent with the intent of the specification in that the valve must be operable to maintain the required flow path from the Safety Injection and Refueling Water (SIRW) tank.

The clarification to Specification 2.3(1) states which electrical buses the safety injection pumps are powered through and is consistent with the Updated Safety Analysis Report, Section 14.15, which assumes that only one full capacity high pressure pump and one full capacity low pressure pump are available during a Loss of Coolant Accident.

The clarification to the basis of Specification 2.14 only deletes the reference to the specific time for a valve to open.

The clarification to Specification 3.7(3) adds verbiage to state that the emergency lighting system required to be tested by this specification is the emergency lighting system required to achieve a plant safe shutdown.

The proposed changes are administrative in nature and are consistent with the assumptions or results stated in the Updated Safety Analysis Report; therefore, the proposed changes do not involve a significant increase in the probability or consequences of an accident previously evaluated.

(2) Create the possibility of a new or different kind of accident from any previously analyzed.

The proposed administrative changes correct typographical errors and references, and implement changes to make the Specifications consistent. No new or different operation of plant equipment is proposed. No new or different action statements are proposed. Therefore, the proposed changes do not create the possibility of a new or different type of accident.

(3) Involve a significant reduction in a margin of safety.

The proposed administrative changes correct typographical errors and references, and implement changes to make the Specifications consistent. The clarifications being proposed are within the assumptions or results as stated in the Updated Safety Analysis Report; therefore, the proposed changes do not involve a significant reduction in a margin of safety.

The NRC staff has reviewed the licensee's analysis and, based on this review, it appears that the three standards of 10 CFR 50.92(c) are satisfied. Therefore, the NRC staff proposes to determine that the amendment request involves no significant hazards consideration.

Local Public Document Room location: W. Dale Clark Library, 215 South 15th Street, Omaha, Nebraska 68102

Attorney for licensee: LeBoeuf, Lamb, Leiby, and MacRae, 1875 Connecticut Avenue, N.W., Washington, D.C. 20009-5728

NRC Project Director: Terence L. Chan, Acting Director

Pennsylvania Power and Light Company, Docket No. 50-387, Susquehanna Steam Electric Station, Unit 1, Luzerne County, Pennsylvania

Date of amendment request: July 21, 1993

Description of amendment request: The amendment would revise the Technical Specifications to change the requirements for acquisition of baseline data on single-loop operation (SLO) from during startup following each refueling outage to at least once during the 18-month fuel cycle. The present Technical Specification 4.4.1.1.2.6 requires that the baseline data on SLO be taken during startup. The unit normally enters SLO 2 or 3 times during the 18-month fuel cycle for maintenance reasons, such as replacement of the brushes on one of the two motor-generator sets. The change to the Technical Specifications will permit the

baseline data to be taken during entry into and out of SLO at any time during the fuel cycle rather than specifically at startup. This change is consistent with General Electric Company recommendations and has been previously approved by the Commission for Susquehanna, Unit 2, by

Amendment No. 91 issued on October 28, 1992.

Basis for proposed no significant hazards consideration determination: As required by 10 CFR 50.91(a), the licensee has provided its analysis of the issue of no significant hazards consideration, which is presented below:

The proposed change does not:

1. Involve a significant increase in the probability or consequences of an accident previously evaluated.

The proposed changes are administrative in nature and do not involve any change to the configuration or method of operation of any plant equipment that is used to mitigate the consequences of an accident nor alter the conditions or assumptions in any of the Final Safety Analysis Report (FSAR) accident analyses. The revised testing schedule eliminates unnecessary plant cycling while taking advantage of SLO which is typically scheduled 2 or 3 times per cycle for maintenance reasons. In addition, since the plant must be placed in SLO at low core flow to obtain the desired baseline data the revised testing schedule minimizes low core flow/power operation where reactor instability is a concern by eliminating the requirement to acquire single loop baseline data during startup following each refueling outage. Therefore, it can be concluded that the proposed changes do not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Create the possibility of a new or different kind of accident from any accident previously evaluated.

No new failure modes have been defined for any plant system or component important to safety nor has any new limiting failure been identified as a result of the proposed changes. There will be no change in the type of testing being done. Therefore, it can be concluded that the proposed changes do not create the possibility of a new or different kind of accident from those previously evaluated.

3. Involve a significant reduction in a margin of safety.

The proposed changes are administrative in nature. The same type of testing will be performed as before. It is intended that single loop data will be taken a[t] least once per 18 months (555 days) when SLO is scheduled for maintenance reasons rather than entering SLO for no reason other than to comply with Technical Specifications. Administrative controls will be established to ensure SLO baseline data will be recorded under the following conditions: 1) beginning of cycle when discharged bundles are replaced with bundles of a different mechanical or thermal-hydraulic design, 2) when reactor systems or core operating strategies which can affect the baseline data are modified, and 3) if it is determined that dual loop baseline data has changed significantly. Therefore, it can be concluded that the proposed changes do not involve a significant reduction in a margin of safety.

The NRC staff has reviewed the licensee's analysis and, based on this review, it appears that the three standards of 10 CFR 50.92(c) are satisfied. Therefore, the NRC staff proposes to determine that the amendment request involves no significant hazards consideration.

Local Public Document Room location: Osterhout Free Library, Reference Department, 71 South Franklin Street, Wilkes-Barre, Pennsylvania 18701

Attorney for licensee: Jay Silberg, Esquire, Shaw, Pittman, Potts and Trowbridge, 2300 N Street NW., Washington, DC 20037

NRC Project Director: Michael L. Boyle

Power Authority of The State of New York, Docket No. 50-286, Indian Point Nuclear Generating Unit No. 3, Westchester County, New York

Date of amendment request: May 21, 1993

Description of amendment request: The licensee commenced operating on a 24-month fuel cycle, instead of the previous 18-month fuel cycle, with fuel cycle 9. Fuel cycle 9 started in August 1992. In order to accommodate operation on a 24-month cycle, the licensee requested an amendment to the Technical Specifications (TSs) to incorporate the Engineering Safety Features (ESF) changes listed below:

(1) The licensee proposed changing the safety injection system test frequency (specified in TS Section 4.5.A.1.a) to accommodate operation on a 24-month cycle.

(2) The licensee proposed changing the loss of normal AC in conjunction with a safety injection signal test frequency (specified in TS Section 4.6.A.3) to accommodate operation on a 24-month cycle. The licensee also proposed reformatting this section to improve clarity.

(3) The licensee proposed changing the auxiliary feedwater system undervoltage automatic start test frequency (specified in TS Table 4.1-1) to accommodate operation on a 24-month cycle.

(4) The licensee proposed changing the auxiliary feedwater system main feedwater pump trip automatic start test frequency (specified in TS Table 4.1-1) to accommodate operation on a 24-month cycle.

These proposed changes follow the guidance provided in Generic Letter 91-04, "Changes in Technical Specification Surveillance Intervals to Accommodate a 24-Month Fuel Cycle," as applicable.

In addition, the licensee proposed adding quarterly testing and 24-month calibration requirements to TS Table 4.1-1 for the main steam line flow instrumentation. These surveillances would be added to ensure operability of the main steam line flow circuits and to be consistent with the TS surveillance requirements for other ESF instruments.

Basis for proposed no significant hazards consideration determination: As required by 10 CFR 50.91(a), the licensee has provided its analysis of the issue of no significant hazards consideration, which is presented below:

Consistent with the criteria of 10 CFR 50.92, the enclosed application is judged to involve no significant hazards based on the following information:

(1) Does the proposed license amendment involve a significant increase in the probability or consequences of any accident previously evaluated?

Response:

The proposed changes do not involve a significant increase in the probability or consequences of any accident previously evaluated. The proposed changes extend the frequency for performing engineered safety features [ESF] simulated automatic actuation tests. These changes are being made to accommodate a 24 month operating cycle, and do not alter the system functions. The simulated automatic actuation tests verify operability of the complete actuation circuit by monitoring valve operation, pump starts, pump circuit breaker trips, diesel generator starting and automatic sequencing of ESF components. The bulk of the ESF equipment is tested monthly. The ESF relays and switches that are only tested during refueling outages are considered to be reliable, and their past performance has been acceptable (except for the Agastat time delay relays). The Authority plans to test the Agastats more frequently, and in no case will the Agastat test interval exceed the present interval of 18 months (+ 25%). Similarly, extending the AFW undervoltage test does not change the way the system functions, and on-line testing provides a level of assurance that the AFW system will function properly. The steam line flow surveillance requirements being added ensure the operability of the circuits, and are consistent with the surveillance requirements for other Engineered Safety Feature instruments. Reformatting specification 4.6.A.3 [the loss of all normal AC station service power supplies in conjunction with a simulated safety injection signal test] is an administrative change; it is meant to improve the sentence structure of the specification, and does not change any requirements.

(2) Does the proposed license amendment create the possibility of a new or different kind of accident from any previously evaluated?

Response:

The proposed changes do not create the possibility of a new or different kind of accident from any previously evaluated. The proposed changes extend the frequency for performing engineered safety features simulated automatic actuation tests. These changes are being made to accommodate a 24 month operating cycle. The changes do not physically change the plant, or alter the way the ESF equipment functions. The tests verify operability of the complete actuation circuit by monitoring valve operation, pump starts, pump circuit breaker trips, diesel generator starting and automatic sequencing of ESF components. The bulk of the ESF equipment is tested monthly. The ESF relays and switches that are only tested during refueling outages are considered to be reliable, and their past performance has been acceptable (except for the Agastat time delay relays). The Authority plans to test the Agastats more frequently, and in no case will the Agastat test interval exceed the present interval of 18 months (+ 25%). Similarly, extending the AFW undervoltage test does not physically change the plant, or alter the way the system functions, and on-line testing provides a level of assurance that the AFW system will function properly. The steam line flow surveillance requirements being added ensure the operability of the circuits, and are consistent with the surveillance requirements for other Engineered Safety Feature instruments. Reformatting specification 4.6.A.3 is an administrative change; it is meant to improve the sentence structure of the specification, and does not change any requirements.

(3) Does the proposed amendment involve a significant reduction in a margin of safety?

Response:

The proposed changes do not involve a significant reduction in a margin of safety. The proposed changes extend the frequency for performing engineered safety features simulated automatic actuation tests. These changes are being made to accommodate a 24 month operating cycle. The changes will not physically change the plant, nor do they change any established system setpoints. These tests verify operability of the complete actuation circuit by monitoring valve operation, pump starts, pump circuit breaker trips, diesel generator starting and automatic sequencing of ESF components. The bulk of the ESF equipment is tested monthly. The ESF relays and switches that are only tested during refueling outages are considered to be reliable, and their past performance has been acceptable (except for the Agastat time delay relays). The Authority plans to test the Agastat more frequently, and in no case will the Agastat test interval exceed the present interval of 18 months (+ 25%). Similarly, extending the AFW undervoltage test does not physically change the plant, nor does it change any established system setpoints, and on-line testing provides a level of assurance that the AFW system will function properly. The steam line flow surveillance requirements are additional technical specification requirements that ensure the operability of the circuits. Reformatting specification 4.6.A.3 is an administrative change; it is meant to improve the sentence structure of the specification, and does not change any requirements.

The NRC staff has reviewed the licensee's analysis and, based on this review, it appears that the three standards of 50.92(c) are satisfied. Therefore, the NRC staff proposes to determine that the amendment request involves no significant hazards consideration.

Local Public Document Room location: White Plains Public Library, 100 Martine Avenue, White Plains, New York 10601.

Attorney for licensee: Mr. Charles M. Pratt, 10 Columbus Circle, New York, New York 10019.

NRC Project Director: Robert A. Capra

Power Authority of the State of New York, Docket No. 50-333, James A. FitzPatrick Nuclear Power Plant, Oswego County, New York

Date of amendment request: June 17, 1993

Description of amendment request: The proposed changes would add requirements for remote/alternate shutdown equipment to the Technical Specifications (TSs) and include new limiting conditions for operation, surveillance requirements, and Bases sections. The remote/alternate shutdown capabilities are intended to provide the necessary instrumentation and controls to place and maintain the plant in a safe shutdown condition from a location other than the control room in the event that the control room becomes uninhabitable. Additional changes to the TSs have been proposed to provide operability and surveillance guidance for the remote/alternate shutdown panels.

Basis for proposed no significant hazards consideration determination: As required by 10 CFR 50.91(a), the licensee has provided its analysis of the issue of no significant hazards consideration, which is presented below:

Operation of the FitzPatrick plant in accordance with the proposed Amendment would not involve a significant hazards consideration as defined in 10 CFR 50.92, since it would not:

1. involve a significant increase in the probability or consequences of an accident previously evaluated.

The inclusion of remote/alternate shutdown panels is not considered in the original plant accident analyses. The proposed inclusion of the remote/alternate shutdown panels in the Technical Specifications will not affect the ability of these panels in performing their intended function. The use of a keylock and an anti-tampering switch to alarm in the control room provides security against unauthorized access to the panels. The probability of a fire requiring the use of these panels is not increased and the ability of plant personnel and fire protection equipment to detect and extinguish a fire is not affected. For a severe fire affecting the control room, the remote/alternate shutdown panels provide an enhanced capability to achieve and maintain a cold shutdown. The proposed inclusion of the remote/alternate shutdown panels in the Technical Specifications will not introduce any additional combustible materials or ignition sources into the plant.

2. create the possibility of a new or different kind of accident from those previously evaluated.

The proposed inclusion of the remote/alternate shutdown panels in the Technical Specifications does not create the possibility of a new or different kind of accident or fire. The use of keylocks and anti-tampering switches to control access to these panels reduces the possibility of a new or different kind of accident from inadvertent operation. The proposed changes to the Technical Specifications provides additional capability towards mitigating the consequences of a fire in the control room, relay room, or cable spreading room by allowing for the control and establishment of a safe condition for the reactor from an alternate location. Analyses have demonstrated that the plant can be safely shutdown and maintained in a shutdown condition assuming the loss of all equipment in any single fire area or zone.

3. involve a significant reduction in the margin of safety.

The proposed inclusion of the remote/alternate shutdown panels in the Technical Specifications provides additional protection against the possibility of a fire causing the loss of reactor control capability. The inclusion of limiting conditions for operation and surveillance requirements will not reduce any existing safety margins. These changes will increase the reactor operators confidence in their ability to control the reactor under conditions requiring the evacuation of the control room.

The NRC staff has reviewed the licensee's analysis and, based on this review, it appears that the three standards of 50.92(c) are satisfied. Therefore, the NRC staff proposes to determine that the amendment request involves no significant hazards consideration.

Local Public Document Room location: Reference and Documents Department, Penfield Library, State University of New York, Oswego, New York 13126.

Attorney for licensee: Mr. Charles M. Pratt, 1633 Broadway, New York, New York 10019.

NRC Project Director: Robert A. Capra

Power Authority of the State of New York, Docket No. 50-333, James A. FitzPatrick Nuclear Power Plant, Oswego County, New York

Date of amendment request: June 24, 1993

Description of amendment request: The proposed changes would amend the Technical Specifications (TSs) to delete Surveillance Requirement 4.6.A.7 which contains the schedule for removing reactor vessel flux monitoring surveillance capsules. The proposed TS changes are consistent with the guidance in Generic Letter 91-01, "Removal of the Schedule for the Withdrawal of Reactor Vessel Material Specimens from Technical Specifications."

Basis for proposed no significant hazards consideration determination: As required by 10 CFR 50.91(a), the licensee has provided its analysis of the issue of no significant hazards consideration, which is presented below:

Operation of the FitzPatrick plant in accordance with the proposed Amendment would not involve a significant hazards consideration as defined in 10 CFR 50.92, since it would not:

1. involve a significant increase in the probability or consequences of an accident previously evaluated.

The proposed changes will not increase the probability or consequences of an accident previously evaluated because the plant's accident analyses is not affected by the Technical Specification change. The proposed changes will not affect the Reactor Vessel Material Surveillance Program nor the requirements to update pressure and temperature operating limits resulting from reactor vessel flux monitoring surveillance capsule examination. Although the Surveillance Requirement and the withdrawal schedule will be removed, 10 CFR [Part] 50 Appendix H requires that reactor vessel flux monitoring surveillance capsules be periodically removed and examined to determine changes in their material properties. The NRC approved schedule will be in the updated FSAR [Final Safety Analysis Report]. Therefore, no reduction in the overall effectiveness of the Reactor Vessel Material Surveillance Program will result from the proposed changes.

2. create the possibility of a new or different kind of accident from any accident previously evaluated.

The proposed changes do not create the possibility of a new or different kind of accident from those previously evaluated because they will not require modification to any plant structures, systems, components or practices. 10 CFR [Part] 50, Appendix H, will continue to require reactor vessel flux monitoring surveillance capsules be periodically removed and examined to determine changes to pressure and temperature operating limits. The absence of any changes to plant hardware or to the withdrawal schedule ensures that accident initiators are unaffected.

3. involve a significant reduction in the margin of safety.

The proposed changes will not cause a reduction in the margin of safety. The results of the plant accident analyses continue to bound operation under the proposed changes so there is no reduction in the margin of safety. Removal of the Surveillance Requirement containing the withdrawal schedule for reactor vessel flux monitoring surveillance capsules from the Technical Specifications will not result in any loss of regulatory control. Changes to the withdrawal schedule are controlled by the requirements of Appendix H to 10 CFR Part 50. The actual withdrawal schedule will be added to the updated FSAR in the next revision made in accordance with 10 CFR 50.71(e). Removal of the Surveillance Requirement containing the withdrawal schedule for reactor vessel flux monitoring surveillance capsules will not result in any loss of clarity related to the regulatory requirements of Appendix H to 10 CFR Part 50. The Bases for Section 3.6 and 4.6 A provide background information on the use of the data obtained from material specimen examination.

The NRC staff has reviewed the licensee's analysis and, based on this review, it appears that the three standards of 50.92(c) are satisfied. Therefore, the NRC staff proposes to determine that the amendment request involves no significant hazards consideration.

Local Public Document Room location: Reference and Documents Department, Penfield Library, State University of New York, Oswego, New York 13126.

Attorney for licensee: Mr. Charles M. Pratt, 1633 Broadway, New York, New York 10019.

NRC Project Director: Robert A. Capra

Power Authority of the State of New York, Docket No. 50-333, James A. FitzPatrick Nuclear Power Plant, Oswego County, New York

Date of amendment request: June 30, 1993

Description of amendment request: The application proposes four changes associated with the suppression chamber (torus) limiting conditions for operation (LCOs), surveillance requirements (SRs), and associated Bases. The first of these changes would revise Technical Specification LCO 3.7.A to specify minimum and maximum torus water levels in terms of level above the bottom of the torus with the intention of simplifying compliance verification by eliminating the need to translate water level. The second and third changes would revise SR 4.7.A to permit periodic torus inspections during each operating cycle instead of each refueling outage, and to clarify the responsibility of the operator to observe pool temperature and allow operator logging of temperature when the recorder is not available. The fourth change would correct editorial errors and clarify terminology.

Basis for proposed no significant hazards consideration determination: As required by 10 CFR 50.91(a), the licensee has provided its analysis of the issue of no significant hazards consideration, which is presented below:

Operation of the FitzPatrick plant in accordance with the proposed Amendment would not involve a significant hazards consideration as defined in 10 CFR 50.92, since it would not:

1. involve a significant increase in the probability or consequences of an accident previously evaluated.

There are proposed changes in four areas. The first revises LCO [Limiting Condition for Operation] 3.7.A and its associated Bases to specify minimum and maximum torus water levels based on height from the torus bottom rather than downcomer submergence and corrects the LCO to identify that level is the parameter being monitored. It also corrects the Bases to indicate that the volume for the minimum water level is an approximate value. These changes make the LCO consistent with instrumentation scales without changing allowable water level, clarify the LCO by identifying level and not volume as the parameter monitored and make the Bases consistent with the LCO and the updated FSAR [Final Safety Analysis Report]. The second and third changes revise SR [Surveillance Requirement] 4.7.A. The second change eliminates a restriction that limits periodic torus inspections to refueling outages. The proposed change will allow inspections to be scheduled during non-refueling outages. This is expected to minimize interferences which can limit inspection work hours and reduce personnel radiation exposure. The third change clarifies the surveillance requirement for pool temperature monitoring. The proposed change will eliminate any implication that the operator is to continuously monitor temperature during periods of heat addition. The proposed change requires the operator to verify temperature every five minutes. If there is a failure of the recorder, the operator shall log temperature every 5 minutes. This interval and the verification requirement are consistent with the requirements of the improved Standard Technical Specifications. There are existing instrumentation and alarms to keep the operator aware of excessive temperature and to record temperature. The last change makes editorial corrections and clarifies terminology. None of the proposed changes make hardware or equipment modifications. A procedural change will be required to allow torus surveillance to be performed during non-refueling outages. These changes will not alter the probability or consequences of any previously evaluated accidents as documented in the FitzPatrick FSAR or the NRC staff SER [Safety Evaluation Report].

2. create the possibility of a new or different kind of accident from any accident previously evaluated.

The proposed changes involve clarifications and improvements to the Technical Specifications. There are no hardware modifications or equipment

changes. There is a change to allow the torus surveillance procedure to be revised so that surveillances can be implemented during non-refueling outages. The revision to torus inspection requirements does not alter the surveillance requirements other than to add additional scheduling flexibility. Revising the reference point for specifying torus water level will not alter the allowable torus water levels, initiate an accident or otherwise affect postulated events. The surveillance clarification reflects current plant practice that the operator is not required to continuously monitor or log torus water temperature and is consistent with the improved Standard Technical Specifications.

3. Involve a significant reduction in a margin of safety.

The proposed changes involve no hardware modifications or equipment changes. The revision to torus water level limits does not alter the water levels, just the measurement reference point to simplify compliance verification. This provides a positive safety benefit by avoiding the need for the operator to translate water level. The change to the torus inspection interval provides added flexibility in scheduling inspections. There is no reduction in safety since the length of the surveillance interval remains the same. The change to the surveillance of the water temperature monitoring requirement clarifies the wording of the surveillance requirement and removes the possibility of an unintended interpretation creating confusion in responsibilities.

The NRC staff has reviewed the licensee's analysis and, based on this review, it appears that the three standards of 50.92(c) are satisfied. Therefore, the NRC staff proposes to determine that the amendment request involves no significant hazards consideration.

Local Public Document Room location: Reference and Documents Department, Penfield Library, State University of New York, Oswego, New York 13126.

Attorney for licensee: Mr. Charles M. Pratt, 1633 Broadway, New York, New York 10019.

NRC Project Director: Robert A. Capra

Power Authority of the State of New York, Docket No. 50-333, James A. FitzPatrick Nuclear Power Plant, Oswego County, New York

Date of amendment request: July 15, 1993

Description of amendment request: The proposed changes would revise the Technical Specifications to eliminate the reactor scram and Main Steam Line Isolation Valve (MSIV) closure requirements associated with the Main Steam Line Radiation Monitors (MSLRM). The proposed changes are consistent with Licensing Topical Report NEDO-31400, "Safety Evaluation for Eliminating the Boiling Water Reactor Main Steam Isolation Valve Closure Function and Scram Function of the Main Steam Line Radiation Monitor," dated May 1987.

Basis for proposed no significant hazards consideration determination: As required by 10 CFR 50.91(a), the licensee has provided its analysis of the issue of no significant hazards consideration, which is presented below:

Operation of the FitzPatrick plant in accordance with the proposed amendment would not involve a significant hazards consideration as defined in 10 CFR 50.92, since it would not:

1. involve a significant increase in the probability or consequences of an accident previously evaluated.

None of the FitzPatrick design basis events takes credit for reactor scram initiated from the MSLRM. Therefore, elimination of the scram trip signal will not increase the probability or consequences of accidents previously evaluated.

The Control Rod Drop Accident (CRDA) is the only design basis event which assumes that the reactor vessel isolation comes from the MSLRM. The isolation trip will not prevent the CRDA from occurring, therefore its elimination will not increase the probability of the accident.

The MSLRM isolation of the MSIVs was intended to mitigate the consequences of a CRDA. The fission products transported to the main condenser before MSIV closure, results in a ground level release due to condenser leakage. However, NEDO-31400, and the plant specific analysis using the NEDO-31400 assumptions and methodology, demonstrates that the isolation is actually of little benefit in this regards. Without MSIV isolation, the steam jet air ejector remains operational, and the fission products are processed through the augmented offgas treatment system. The holdup time, charcoal adsorption and elevated release, provided by the offgas treatment system, limits the offsite exposure levels. The analysis shows the offsite thyroid doses for the CRDA reduced to zero without MSIV closure. There is a small increase in the whole body doses without MSIV closure; however, the conservatively calculated values are a small fraction of 10 CFR [Part] 100 and SRP [Standard Review Plan] 15.4.9 guidelines.

Therefore, the elimination of the MSLRM isolation trip will not increase the consequences of an accident previously evaluated.

2. create the possibility of a new or different kind of accident from those previously evaluated.

The MSLRM scram and MSIV isolation, were originally intended to mitigate, not prevent an accident scenario. Other than the circuitry modifications required to accomplish the removal of the subject trips, no changes to the physical plant or to the manner in which the plant is operated are introduced by the requested change. The change does not affect the remaining scram or vessel isolation functions. Therefore, no new or different kind of accident is created.

3. involve a significant reduction in the margin of safety.

The Licensing Topical Report NEDO-31400, as approved by the NRC, provides the results of a reliability assessment of the elimination of the MSLRM scram function on reactivity control failure frequency and core damage frequency. The results of the analysis indicate a negligible increase, on a generic basis, in reactivity control failure frequency with the deletion of the MSLRM scram function (1.4 E-9 events/year). However, this increase in reactivity control failure frequency is offset by the reduction in the transient initiating events (inadvertent scrams). This reduction in transient initiating events represents a 0.3% reduction in the generic core damage frequency (Reference 1) [Licensing Topical Report NEDO-31400].

Safe operation of the plant is further enhanced by elimination of the unnecessary scram and subsequent isolation of the reactor vessel. With implementation of these changes, the primary heat sink (main condenser) remains available, a large transient on the vessel and safety-related actuation are avoided, and the Offgas Treatment System remains available to control the potential release pathway.

The existing MSLRM and offgas radiation monitoring instrumentation will remain in service to provide information and alarms to plant operations. In the event either or both of these monitors alarm, the reactor coolant will be promptly sampled to determine activity levels and the need for additional corrective actions. The offgas treatment system isolation trip function on high radiation remains unaffected by this change. The MSLRM isolation functions, other than for the MSIV's, also remain unaffected by this change.

For these reasons, the proposed changes will enhance the margin of safety.

The NRC staff has reviewed the licensee's analysis and, based on this review, it appears that the three standards of 50.92(c) are satisfied. Therefore, the NRC staff proposes to determine that the amendment request involves no significant hazards consideration.

Local Public Document Room location: Reference and Documents Department, Penfield Library, State University of New York, Oswego, New York 13126.

Attorney for licensee: Mr. Charles M. Pratt, 1633 Broadway, New York, New York 10019.

NRC Project Director: Robert A. Capra

Tennessee Valley Authority, Docket Nos. 50-327 and 50-328, Sequoyah Nuclear Plant, Units 1 and 2, Hamilton County, Tennessee

Date of amendment request: June 16, 1993 (TS 93-05)

Description of amendment request: The proposed change would revise Surveillance Requirement 4.6.5.3.2 associated with the ice condenser intermediate deck door to require less

restrictive lifting force requirements. This would be accomplished by removing some of the conservatism that was used to determine the present force requirements. The result would be a slight increase in the allowable force specified for each of the doors during the test.

Basis for proposed no significant hazards consideration determination: As required by 10 CFR 50.91(a), the licensee has provided its analysis of the issue of no significant hazards consideration, which is presented below:

TVA has evaluated the proposed technical specification (TS) change and has determined that it does not represent a significant hazards consideration based on criteria established in 10 CER 50.92(c). Operation of Sequoyah Nuclear Plant (SQN) in accordance with the proposed amendment will not:

1. Involve a significant increase in the probability or consequences of an accident previously evaluated.

This change replaces the overly conservative ice condenser intermediate deck door lifting force surveillance requirement (SR) values presently in the SQN TS with the values assumed in the current Westinghouse Electric Corporation subcompartment analysis for SQN. There is no change to the functions of the intermediate deck doors by the proposed change. This revision will not change any accident analysis assumptions or results for SQN's design. The intermediate deck doors provide a barrier for maintaining ice bed temperature and ice mass and provide a flow path through the beds for design basis loss of coolant accidents. These doors are not considered to be the source of any accident. Therefore, this change will not increase the probability of an accident.

Since this change in lifting force is consistent with current SQN accident analysis assumptions, containment response for design basis events is not changed. Therefore, no change in the mitigation of accidents will result from the proposed revision and the consequences of an accident will remain unaffected in comparison with current SQN accident analyses.

2. Create the possibility of a new or different kind of accident from any previously analyzed.

The intermediate deck doors are passive devices that are not considered to be the source of an accident. Changing the lifting force requirements for these doors to be consistent with the current Westinghouse subcompartment analysis will not affect their design functions or their potential to create an accident. Therefore, the possibility of a new or different kind of accident is not created.

3. Involve a significant reduction in a margin of safety.

The proposed change is consistent with the current SQN accident analysis assumptions and only removes unnecessary conservatisms associated with intermediate deck door lifting force SRs in the TS. The effect of this revision will result in no change to the containment response associated with a design basis accident. Therefore, the margin of safety assumed in the accident analysis is maintained without change.

The NRC has reviewed the licensee's analysis and, based on this review, it appears that the three standards of 10 CFR 50.92(c) are satisfied. Therefore, the NRC staff proposes to determine that the amendment request involves no significant hazards consideration.

Local Public Document Room location: Chattanooga-Hamilton County Library, 1101 Broad Street, Chattanooga, Tennessee 37402

Attorney for licensee: General Counsel, Tennessee Valley Authority, 400 West Summit Hill Drive, ET 11H, Knoxville, Tennessee 37902

NRC Project Director: Frederick J. Hebdon

Tennessee Valley Authority, Docket Nos. 50-327 and 50-328, Sequoyah Nuclear Plant, Units 1 and 2, Hamilton County, Tennessee

Date of amendment request: June 16, 1993 (TS 93-06)

Description of amendment request: The proposed change would modify the Technical Specifications (TS) to incorporate the new requirements of 10 CFR 20 by (1) changing the liquid and gaseous release rate limits, (2) changing the reference from the old 10 CFR 20.106 requirements to the new 10 CFR 20.1302 reference, (3) revising the equation for the liquid holdup tank activity limit, (4) revising the references from the old 10 CFR 20 to conform with the corresponding sections of the new 10 CFR 20, and (5) providing an unrelated editorial change to remove the word "annual" when describing the Final Safety Analysis Report update frequency.

Basis for proposed no significant hazards consideration determination: As required by 10 CFR 50.91(a), the licensee has provided its analysis of the issue of no significant hazards consideration, which is presented below:

TVA has evaluated the proposed technical specification (TS) change and has determined that it does not represent a significant hazards consideration based on criteria established in 10 CFR 50.92(c). Operation of Sequoyah Nuclear Plant (SQN) in accordance with the proposed amendment will not:

1. Involve a significant increase in the probability or consequences of an accident previously evaluated. The proposed changes: (1) modify the liquid and gaseous release rate limits, (2) relocate the old 10 CFR 20.106 requirements to the new 10 CFR 20.1302, (3) revise the equation for the liquid holdup tank activity limit, (4) revise references from the old 10 CFR 20 to conform to the corresponding sections of the new 10 CFR 20, and (5) provide an editorial change, unrelated to 10 CFR 20, that removes the word "annual" when describing Final Safety Analysis Report update frequency. These proposed changes will not involve a significant increase in the probability or consequences of an accident previously evaluated because there will be no change in the types and amounts of effluents that will be released, nor will there be an increase in individual or cumulative occupational radiation exposures.

2. Create the possibility of a new or different kind of accident from any previously analyzed. The proposed changes related to the new 10 CFR 20 requirements will not create the possibility of a new or different kind of accident from any previously evaluated because the revisions are administrative and will not affect the types and amounts of effluent that will be released. The proposed change to delete the word annual is editorial in nature and will not create the possibility of a new or different kind of accident from any previously analyzed.

3. Involve a significant reduction in a margin of safety. The proposed revisions will not reduce any margin of safety because, for the liquid effluent releases, the methodology that will be used in the control of radioactive effluents will result in the same effluent dose to a member of the public. This is acceptable since annual doses will be limited to the doses specified in 10 CFR 50, Appendix I, and 40 CFR 190. Also, for gaseous effluent releases, the limits associated with the gaseous release rate TSs will be maintained at the current dose rate limits. Compliance with the limits of the new 10 CFR 20.1301 will be demonstrated by operating within the limits of 10 CFR 50, Appendix I and 40 CFR 190. Because compliance with the regulatory requirements has not been compromised and because these changes did not alter the facility or its design, there is no reduction in a margin of safety.

The NRC has reviewed the licensee's analysis and, based on this review, it appears that the three standards of 10 CFR 50.92(c) are satisfied. Therefore, the NRC staff proposes to determine that the amendment request involves no significant hazards consideration.

Local Public Document Room location: Chattanooga-Hamilton County Library,1101 Broad Street, Chattanooga, Tennessee 37402

Attorney for licensee: General Counsel, Tennessee Valley Authority, 400 West Summit Hill Drive, ET 11H, Knoxville, Tennessee 37902

NRC Project Director: Frederick J. Hebdon

Tennessee Valley Authority, Docket Nos. 50-327 and 50-328, Sequoyah Nuclear Plant, Units 1 and 2, Hamilton County, Tennessee

Date of amendment request: June 17, 1993 (TS 93-08)

Description of amendment request: The amendments would revise the allowable values for the intermediate and source range neutron flux monitor

reactor trip setpoints. The present value for the intermediate range setpoint is less than or equal to 30 percent of rated thermal power (RTP), which would be increased to 45.20 percent RTP. The present value for the source range setpoint is less than or equal to 1.3×10^5 counts per second (cps), which would be increased to 1.45×10^5 cps. The proposed changes would affect the Allowable Values Column of Technical Specification Table 2.2-1, Items 5 and 6.

Basis for proposed no significant hazards consideration determination: As required by 10 CFR 50.91(a), the licensee has provided its analysis of the issue of no significant hazards consideration, which is presented below:

TVA has evaluated the proposed technical specification (TS) change and has determined that it does not represent a significant hazards consideration based on criteria established in 10 CFR 50.92(c). Operation of Sequoyah Nuclear Plant (SQN) in accordance with the proposed amendment will not:

1. Involve a significant increase in the probability or consequences of an accident previously evaluated.

The proposed change increases the allowable value for the intermediate- and source-range neutron flux reactor trip functions. These trips are not taken credit for in the safety analysis, but do provide additional reliability for the reactor protection system. These trips are provided for accident mitigation purposes and are not considered to be the source of any accident. Therefore, there is no increase in the probability of an accident because no plant functions have been changed and the increase in the associated allowable values has no impact on accident generation. The mitigation functions for the intermediate- and source-range trips are not assumed in the analysis, but are backups to the power-range neutron flux low setpoint trip. The power-range low trip is assumed in the analysis for uncontrolled control rod withdrawal from a subcritical condition but is not affected by the proposed change. Therefore, mitigation functions assumed in the SQN safety analysis have not been affected by the proposed change and the consequences of an accident, including offsite dose levels, will not be increased.

2. Create the possibility of a new or different kind of accident from any previously analyzed.

The trip functions affected by the proposed change are utilized for accident mitigation purposes though not taken credit for in the safety analysis. No plant functions have been changed as a result of this change, only the allowable values for intermediate- and source-range reactor trip setpoints. Since previously analyzed trip functions remain unchanged and no new or different functions have been introduced, the possibility of a new or different kind of accident has not been created.

3. Involve a significant reduction in a margin of safety.

The trip functions affected by the proposed change are not assumed for any accident in the SQN safety analysis and therefore are not an input to the TS margin of safety. The TS margin of safety for the low-power excursion event is provided by the power-range low setpoint trip function in the safety analysis. As described in Enclosure 2 [justification analysis for the change], the overall reliability of the reactor protection system is not reduced because the source-range-allowable value remains well below the power range trip setpoint and the intermediate-range-allowable value, while higher, will still provide the same accident response because of the rapid increase in neutron flux for low-power excursion events. Therefore, the proposed change will not result in a reduction in the margin of safety or overall reactor protection system reliability.

The NRC has reviewed the licensee's analysis and, based on this review, it appears that the three standards of 10 CFR 50.92(c) are satisfied. Therefore, the NRC staff proposes to determine that the amendment request involves no significant hazards consideration.

Local Public Document Room location: Chattanooga-Hamilton County Library, 1101 Broad Street, Chattanooga, Tennessee 37402

Attorney for licensee: General Counsel, Tennessee Valley Authority, 400 West Summit Hill Drive, ET 11H, Knoxville, Tennessee 37902

NRC Project Director: Frederick J. Hebdon

Tennessee Valley Authority, Docket Nos. 50-327 and 50-328, Sequoyah Nuclear Plant, Units 1 and 2, Hamilton County, Tennessee

Date of amendment request: June 21, 1993 (TS 93-07)

Description of amendment request: The proposed change would: (1) allow relaxation of the end of life (EOL) moderator temperature coefficient (MTC) limit specified in the Core Operating Limits Report; (2) revise the Bases for Specification 3/4.1.1.3, "Moderator Temperature Coefficient," to describe the new methodology used to calculate EOL MTC; and (3) revise Administrative Section 6.9.1.14.a by inserting a reference to the Westinghouse Proprietary Information document that provides the new methodology used to calculate the new EOL MTC.

Basis for proposed no significant hazards consideration determination: As required by 10 CFR 50.91(a), the licensee has provided its analysis of the issue of no significant hazards consideration, which is presented below:

TVA has evaluated the proposed technical specification (TS) change and has determined that it does not represent a significant hazards consideration based on criteria established in 10 CFR 50.92(c). Operation of Sequoyah Nuclear Plant (SQN) in accordance with the proposed amendment will not:

1. Involve a significant increase in the probability or consequences of an accident previously evaluated.

The more negative end of life (EOL) moderator temperature coefficient (MTC) does not significantly increase the probability of an accident previously evaluated in the Updated Final Safety Analysis Report (UFSAR). No new performance requirements are being imposed on any system or component such that any design criteria will be exceeded. The conservative moderator density coefficient (MDC) assumption in the current analyses of record has been confirmed to remain bounding for the more negative proposed TS value. Therefore, no change in the modeling of the accident analysis conditions or response is necessary in order to implement this change.

The consequences of an accident previously evaluated in the UFSAR are not significantly increased because of the more negative EOL MTC. The dose predictions presented in the UFSAR remain valid such that no more severe consequences will result.

2. Create the possibility of a new or different kind of accident from any previously analyzed.

The more negative EOL MTC does not create the possibility of an accident that is different than any already evaluated in the UFSAR. No new failure modes have been defined for any system or component nor has any new limiting single failure been identified. Conservative assumptions for MDC have already been modeled in the UFSAR analyses, and it has been determined that the more negative MTC values to be implemented in the TS will continue to be bounded by these assumptions.

3. Involve a significant reduction in a margin of safety.

The evaluation of the more negative EOL MTC has taken into account the applicable TSs and has bounded the conditions under which the specifications permit operation. The applicable TSs are the bases for TS 3/4.1.1.3 and Section 6.9.1.14.a that list methods approved by NRC for use in determining the core operating limits. The values of the limiting condition of operation and surveillance requirements are located in the Core Operating Limits Report. The analyses that support these TSs have been evaluated. The results as presented in the UFSAR remain bounding for the more negative EOL MTC. Therefore, the margin of safety, as defined in the bases to these TSs, is not significantly reduced.

The NRC has reviewed the licensee's analysis and, based on this review, it appears that the three standards of 10 CFR 50.92(c) are satisfied. Therefore, the NRC staff proposes to determine that the amendment request involves no significant hazards consideration.

Local Public Document Room location: Chattanooga-Hamilton County Library, 1101 Broad Street, Chattanooga, Tennessee 37402

Attorney for licensee: General Counsel, Tennessee Valley Authority,

400 West Summit Hill Drive, ET 11H, Knoxville, Tennessee 37902

NRC Project Director: Frederick J. Hebdon

Toledo Edison Company, Centerior Service Company, and The Cleveland Electric Illuminating Company, Docket No. 50-346, Davis-Besse Nuclear Power Station, Unit No. 1, Ottawa County, Ohio

Date of amendment request: November 13, 1992 supplemented July 15, 1993

Description of amendment request: The proposed amendment would revise Appendix A, TS 3/4.3.1, "Reactor Protection System (RPS) Instrumentation" and TS 3/4.3.2.3, "Anticipatory Reactor Trip System (ARTS) Instrumentation" to increase RPS and ARTS channel functional test surveillance test intervals and RPS allowed out of service times. These requests are made based on the NRC approved Babcock & Wilcox Topical Report, BAW-10167. Also, the addition of an action statement to permit continued operation for 48 hours with two RPS channels inoperable and to remove channel functional test surveillance requirements for source and intermediate range neutron flux instrumentation is requested. Finally, a revision to Table 4.3-1 to decrease the channel calibration surveillance test interval for the "High Flux Number of Reactor Coolant Pumps On" trip is proposed.

Basis for proposed no significant hazards consideration determination: As required by 10 CFR 50.91(a), the licensee has provided its analysis of the issue of no significant hazards consideration, which is presented below:

Toledo Edison has revised the proposed changes and determined that a significant hazards consideration does not exist because operation of the Davis-Besse Nuclear Power Station, Unit 1 in accordance with these changes would:

1a) Not involve a significant increase in the probability of an accident previously evaluated because the proposed changes do not involve design modifications or changes in plant operation which adversely affect the probability of the initiation of previously evaluated accidents. The Reactor Protection System (RPS) and Anticipatory Reactor Trip System (ARTS) primarily function to limit fuel damage thereby mitigating the consequences of accidents and transients. However, spurious trips initiate plant transients. The proposed change to permit plant operation to continue indefinitely with an inoperable RPS instrument channel in bypass instead of tripped, reduces the suscepibility of the RPS to spurious reactor trips, thereby reducing their probability of occurrence. The proposed increase in RPS and ARTS channel functional test interval reduces the number of opportunities for the occurrence of spurious reactor trips during testing. The risk (probability and consequences) impacts of the proposed changes to the surveillance test intervals and allowable out of service times (AOTs) have previously been evaluated by the NRC-approved Babcock and Wilcox (B&W) Topical Report, BAW-10167, "Justification for Increasing the Reactor Trip System On-Line Test Intervals," and its supplements. The NRC review concluded that the proposed surveillance test intervals and AOTs do not contribute an unacceptable increase to overall risk. The proposed decrease in the channel calibration interval for the RPS High Flux/Number of Reactor Coolant Pumps On trip makes the calibration interval consistent with the RPS High Flux and Flux - delta - Flow trips and does not affect the probability of an accident.

1b) Not involve a significant increase in the consequences of an accident previously evaluated because the proposed changes in RPS and ARTS channel functional test intervals and AOTs continue to ensure high reliability of the RPS/ARTS in limiting fuel damage and, therefore, the consequences of previously evaluated accidents. The risk (probability and consequences) impacts of the proposed changes to the surveillance test intervals and AOTs have previously been evaluated by the NRC-approved Babcock and Wilcox (B&W) Topical Report, BAW-10167, "Justification for Increasing the Reactor System On-Line Test Intervals," and its supplements. The NRC review concluded that the proposed surveillance test intervals and AOTs do not make an unacceptable contribution to overall risk. The proposed decrease in the channel calibration interval for the RPS High Flux/Number of Reactor Coolant Pumps On trip makes the calibration interval consistent with the RPS High Flux and Flux - delta - Flux - Flow trips and continues to ensure high reliability of this RPS trip in performing its intended function. Therefore, the consequences of previously evaluated accidents are unaffected by this change.

2a) Not create the possibility of a new kind of accident from any accident previously evaluated because there are no design modifications or hardware changes proposed. Furthermore, there are no new equipment failure modes or mechanisms introduced by the proposed changes.

2b) Not create the possibility of a different kind of accident from any accident previously evaluated because there are no design modifications or hardware changes proposed. Furthermore, there are no different failure modes or mechanisms introduced by the proposed changes.

3) Not involve a significant reduction in a margin of safety since the revised Technical Specifications surveillance intervals and allowed out of service times will continue to ensure high reliability of RPS and ARTS in performing their intended functions.

The NRC staff has reviewed the licensee's analysis and, based on this review, it appears that the three standards of 10 CFR 50.92(c) are satisfied. Therefore, the NRC staff proposes to determine that the amendment request involves no significant hazards consideration.

Local Public Document Room location: University of Toledo Library, Documents Department, 2801 Bancroft Avenue, Toledo, Ohio 43606

Attorney for licensee: Jay E. Silberg, Esquire, Shaw, Pittman, Potts and Trowbridge, 2300 N Street, N.W., Washington, DC 20037

NRC Project Director: John N. Hannon

Toledo Edison Company, Centerior Service Company, and The Cleveland Electric Illuminating Company, Docket No. 50-346, Davis-Besse Nuclear Power Station, Unit No. 1, Ottawa County, Ohio

Date of amendment request: June 23, 1993

Description of amendment request: The proposed amendment would revise the Technical Specifications to allow storage of new and spent fuel assemblies with an initial nominal enrichment of uranium - 235 no greater than 5.0 weight percent.

Basis for proposed no significant hazards consideration determination: As required by 10 CFR 50.91(a), the licensee has provided its analysis of the issue of no significant hazards consideration. The NRC staff has reviewed the licensee's analysis against the standards of 10 CFR 50.92(c). The staff's review is presented below:

The proposed change will not involve a significant increase in the probability or consequences of an accident previously evaluated because the capability of the fuel to maintain a coolable geometry will not be impaired, the ability of the cladding to prevent fission product escape will not be degraded, and the criticality analyses meet acceptance criteria.

The proposed change will not create the possibility of a new or different kind of accident from any previously evaluated accident because no changes to plant systems are being made.

The proposed change will not involve a significant reduction in a margin of safety because the capability of the fuel to maintain a coolable geometry will not be impaired, the ability of the cladding to prevent fission product escape will not be degraded, and the criticality analyses meet acceptance criteria.

Based on this review, it appears that the three standards of 50.92(c) are satisfied. Therefore, the NRC staff proposes to determine that the amendment request involves no significant hazards consideration.

Local Public Document Room location: University of Toledo Library, Documents Department, 2801 Bancroft Avenue, Toledo, Ohio 43606

Attorney for licensee: Jay E. Silberg, Esquire, Shaw, Pittman, Potts and Trowbridge, 2300 N Street, N.W., Washington, DC 20037

NRC Project Director: John N. Hannon

Vermont Yankee Nuclear Power Corporation, Docket No. 50-271, Vermont Yankee Nuclear Power Station, Vernon, Vermont

Date of amendment request: June 25, 1993

Description of amendment request: The proposed amendment would clarify the definition of "core alteration" in Technical Specification 1.O.B to include only those components which affect core reactivity.

Basis for proposed no significant hazards consideration determination: As required by 10 CFR 50.91(a), the licensee has provided its analysis of the issue of no significant hazards consideration, which is presented below:

The Proposed Change will clarify the definition of "core alteration". This clarification will specify that replacement of neutron detectors is not defined as a CORE ALTERATION. Replacement of these components is not considered to be a core alteration and they may be moved (replaced) with the reactor mode switch in the "Shutdown" or "Refuel" positions.

This change will not affect any plant hardware, plant design, safety limit settings, or plant system operation, and therefore does not modify or add any initiating parameters that would significantly increase the probability or consequences of any previously analyzed accident. Therefore, the Proposed Change will not result in a significant increase in the probability or consequences of an accident previously evaluated.

As discussed above, the Proposed Change only clarifies the definition of "core alteration". The Proposed Change does not affect any equipment nor does it involve any potential initiating events that would create any new or different kind of accident. As such, the plant initial conditions utilized for the design basis accident analyses remain unchanged and valid. Therefore, the Proposed Change does not create the possibility of a new or different kind of accident from any previously analyzed.

As discussed above, the Proposed Change which clarifies the definition of "core alteration" does not affect any equipment involved in potential initiating events or safety limits settings. Therefore, the Proposed Change does not involve a significant reduction in the margin of safety.

Based on the above, we have determined that this change does not constitute a significant hazards consideration as defined in 10CFR50.92(c).

The NRC staff has reviewed the licensee's analysis, and based on this review, it appears that the three standards of 50.92(c) are satisfied. Therefore, the NRC staff proposes to determine that the amendment request involves no significant hazards consideration.

Local Public Document Room location: Brooks Memorial Library, 224 Main Street, Brattleboro, Vermont 05301

Attorney for licensee: John A. Ritsher, Esquire, Ropes and Gray, One International Place, Boston, Massachusetts 02110-2624

NRC Project Director: Walter R. Butler

Virginia Electric and Power Company, Docket Nos. 50-338 and 50-339, North Anna Power Station, Units No. 1 and No. 2, Louisa County, Virginia

Date of amendment request: July 2, 1993

Description of amendment request: The proposed changes would modify Technical Specification (TS) 3/4.6.1.2 by removing the schedular requirements for Type A tests to be performed specifically at 40 plus or minus 10 month intervals, and instead, reference Type A testing in accordance with Appendix J to 10 CFR Part 50. The proposed changes also include several editorial/administrative changes. The NA-1 TS 3/4.6.1.2 currently requires that a set of three containment integrated leakage rate (Type A) tests be performed specifically at 40 plus or minus 10 month intervals during each 10-year service period, with the third test of each set performed during the shutdown for the 10-year plant inservice inspection. Appendix J to 10 CFR Part 50 requires that a Type A test of the containment be performed periodically. These tests are required to be scheduled as a set of three tests, to be performed at approximately equal intervals during each 10-year service period with the third set to coincide with the shutdown for the 10-year plant inservice inspection. While the NA-1&2 TS leakage rate testing requirements essentially duplicate the requirements in Appendix J, the TS additionally require the Type A test be performed at 40 plus or minus 10 month intervals. The TS requirement to conduct Type A tests at 40 plus or minus 10 month intervals is too restrictive. Therefore, the licensee proposes to delete the detailed surveillance schedule for the Type A tests and, instead, reference performance of Type A testing in accordance with Appendix J to 10 CFR 50. The proposed changes to the TS do not involve modifications to any of the existing equipment or affect the operation of any existing systems. The reactor containment system reliability and operation are unchanged and, therefore, remain in accordance with the descriptions found in the Updated Final Safety Analysis Report (UFSAR). The proposed TS changes do not affect or change any other limiting conditions for operation (LCO) or surveillance requirements in the TS and the Basis for the TS remains unchanged. Periodic Type A tests will still be performed during the service life of each unit as required by Appendix J to 10 CFR 50. The proposed changes do not change the number of tests required -- only the specific schedule is requested to be removed.

Basis for proposed no significant hazards consideration determination: As required by 10 CFR 50.91(a), the licensee has provided its analysis of the issue of no significant hazards consideration, which is presented below:

Specifically, operation of North Anna Power Station in accordance with the Technical Specification changes will not:

(1) Affect the assumptions, design parameters, or results of any UFSAR accident analysis. The proposed amendment does not add or modify any existing equipment. The proposed Type A testing schedule will still be consistent with Appendix J to 10 CFR 50. Therefore, the proposed Technical Specifications changes would not involve a significant increase in the probability or consequences of an accident previously evaluated.

(2) Involve modifications to any of the existing equipment or affect the operation or design basis of the containment. The proposed changes do not modify the response of the containment during a design basis accident. The proposed changes only remove the restrictive schedule requirements for conducting Type A testing from the Technical Specifications. Therefore, the proposed Technical Specifications changes would not create the possibility of a new or different kind of accident from any accident previously evaluated.

(3) [Involve a significant reduction in a margin of safety.] Although the changes allow more flexibility in scheduling Type A tests, the proposed amendment continues to ensure reactor containment system reliability by the periodic tests. Since equipment reliability will be maintained, the proposed Technical Specifications changes will not involve a signification reduction in margin of safety.

The NRC staff has reviewed the licensee's analysis and, based on this review, it appears that the three standards of 50.92(c) are satisfied. Therefore, the NRC staff proposes to determine that the amendment request involves no significant hazards consideration.

Local Public Document Room location: The Alderman Library, Special Collections Department, University of

Virginia, Charlottesville, Virginia 22903-2498.

Attorney for licensee: Michael W. Maupin, Esq., Hunton and Williams, Riverfront Plaza, East Tower, 951 E. Byrd Street, Richmond, Virginia 23219.

NRC Project Director: Herbert N. Berkow

Virginia Electric and Power Company, Docket Nos. 50-338 and 50-339, North Anna Power Station, Units No. 1 and No. 2, Louisa County, Virginia

Date of amendment request: July 2, 1993

Description of amendment request: The proposed change would reduce from two to one the minimum number of steam generators (SGs) required to be opened for inspection during the first refueling outage following a steam generator replacement. The NA-1&2 Technical Specifications (TS) surveillance requirements 4.4.5.0 through 4.4.5.5 for inspection of the SG tubes ensure that the structural integrity of this portion of the Reactor Coolant System will be maintained. Accordingly, the purpose of TS 4.4.5.1 is to require periodic sample inspections of SG tubes. The initial inspection after SG replacement combined with the subsequent inservice inspections serve to provide reasonable assurance that structural degradation of SG tubes will be detected. The proposed TS change does not affect or change this basis. However, the requirement that two SGs be opened and inspected during the first refueling outage after steam generator replacement is considered unnecessary by the licensee.

The replacement SG components for NA-1&2 have been or are being manufactured using current codes and manufacturing techniques without compromising the requirements of the original code thus reflecting current technology in the areas of design, fabrication, and materials. Design changes and enhancements made to replacement SG components address the operating experience of the original SGs and enhance the overall reliability and maintainability of the repaired steam generators. These enhancements are incorporated as not to adversely affect the mechanical or thermal-hydraulic performance of the repaired SGs. Thus, the replacement SGs are considered superior to the original SGs in terms of design and materials. The proposed change to the TS does not involve modifications to any of the existing equipment or affect the operation of any existing systems. The reactor coolant system reliability and operation are unchanged and, therefore, remain in accordance with the descriptions found in the Updated Final Safety Analysis Report (UFSAR).

The proposed TS change would not affect or change any limiting conditions for operation (LCO) or any other surveillance requirements in the TS and the Basis for the surveillance requirement would remain unchanged. An inspection of the minimum required number of SG tubes would still be performed prior to returning the SGs to service. Although the proposed change would reduce the number of SGs required to be opened for inspection, the minimum number of tubes required to be examined during the inspection would not be changed. Thus, the inspected SG tube population size would not change.

Basis for proposed no significant hazards consideration determination: As required by 10 CFR 50.91(a), the licensee has provided its analysis of the issue of no significant hazards consideration, which is presented below:

We have evaluated the proposed change against the criteria described in 10 CFR 50.92 and concluded that the proposed Technical Specifications change does not pose a significant hazards consideration.

1. The proposed Technical Specifications change does not affect the assumptions, design parameters, or results of any UFSAR accident analysis and the proposed amendment does not add or modify any existing equipment. Therefore, the proposed Technical Specifications change would not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. The proposed change to the Technical Specifications does not involve modifications to any of the existing equipment or affect the operation of any existing systems. The absence of any hardware or software changes means that the accident initiators remain unaffected, so no unique accident possibility is created. Therefore, the proposed Technical Specifications change would not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Although the change allows the rescheduling of the steam generator tube inspections, the proposed amendment continues to ensure that the tube inspection sampling will be performed. Therefore, the operability of the steam generators will continue to be verified by the periodic inservice inspections. Since equipment reliability will be maintained, the proposed Technical Specifications change will not involve a significant reduction in a margin of safety.

The NRC staff has reviewed the licensee's analysis and, based on this review, it appears that the three standards of 50.92(c) are satisfied. Therefore, the NRC staff proposes to determine that the amendment request involves no significant hazards consideration.

Local Public Document Room location: The Alderman Library, Special Collections Department, University of Virginia, Charlottesville, Virginia 22903-2498.

Attorney for licensee: Michael W. Maupin, Esq., Hunton and Williams, Riverfront Plaza, East Tower, 951 E. Byrd Street, Richmond, Virginia 23219.

NRC Project Director: Herbert N. Berkow

Virginia Electric and Power Company, Docket Nos. 50-338 and 50-339, North Anna Power Station, Units No. 1 and No. 2, Louisa County, Virginia

Date of amendment request: July 8, 1993

Description of amendment request: The proposed changes would delete from the NA-1&2 Technical Specifications (TS) the requirement to periodically review certain administrative and technical procedures. TS 6.8.2 specifies that the procedures prescribed in TS 6.8.1 "and changes thereto, shall be reviewed and approved by the SNSOC prior to implementation and reviewed periodically as set forth in administrative procedures." This provision applies to procedures which describe and are used for administrative controls, maintenance, surveillance testing, operations, calibration, chemistry control, health physics and radiological protection, and refueling operations. The periodic review of these procedures is intended to ensure that procedures are maintained adequate to control those activities, technically and philosophically accurate, and current as necessary to incorporate design modifications, technical bulletins, manufacturer updates, and industry experience. The proposed TS changes delete these periodic reviews because the established procedure upgrade/revision program effectively accomplishes these goals. Numerous checks and balances ensure that procedures are maintained adequate, accurate, and up-to-date including routine inputs from the design change process, day-to-day activities, reviews after any unplanned transient, operational experience review program, TS change packages, licensed Operator requalification program, and independent assessments/audits of the procedure review, revision, and upgrade program.

Basis for proposed no significant hazards consideration determination: As required by 10 CFR 50.91(a), the licensee has provided its analysis of the issue of no significant hazards consideration, which is presented below:

Specifically, operation of North Anna Power Station in accordance with the Technical Specification changes will not:

(1) Involve a significant increase in the probability or consequences of an accident previously evaluated. The likelihood that an accident will occur is neither increased or decreased by eliminating the periodic reviews of routine administrative and technical procedures. Sufficient controls are established to ensure that procedures impacting safety-related structures, systems, and components are maintained current, accurate, and usable. This TS change will therefore not impact the function or method of operation of plant equipment. Thus, a significant increase in the probability of a previously analyzed accident does not result due to this change. No systems, equipment, or components are affected by the proposed changes. Thus, the consequences of a malfunction of equipment important to safety previously evaluated in the UFSAR [Updated Final Safety Analysis Report] are not increased by this change. The proposed changes do not affect equipment or its operation, and, thus, do not affect the probabilities or consequences of an accident. Therefore, we conclude that this change does not significantly increase the probabilities or consequences of an accident.

(2) Create the possibility of a new or different kind of accident from any accident previously evaluated. The proposed changes do not involve changes to the physical plant or operations. Since periodic procedure reviews do not contribute to accident initiation, a change related to such an activity does not produce a new accident scenario or produce a new type of equipment malfunction. Also, this change does not alter any existing accident scenarios. The proposed changes do not affect equipment or its operation, and, thus, do not create the possibility of a new or different kind of accident. Therefore, the proposed changes do not create the possibility of a new or different kind of accident.

(3) Involve a significant reduction in a margin of safety. Technical Specification 6.8.2 does not have a basis description. The proposed changes do not affect equipment or its operation, and, thus, do not involve any reduction in the margin of safety. Therefore, use of the proposed Technical Specification would not involve any reduction in the margin of safety.

The NRC staff has reviewed the licensee's analysis and, based on this review, it appears that the three standards of 50.92(c) are satisfied. Therefore, the NRC staff proposes to determine that the amendment request involves no significant hazards consideration.

Local Public Document Room location: The Alderman Library, Special Collections Department, University of Virginia, Charlottesville, Virginia 22903-2498.

Attorney for licensee: Michael W. Maupin, Esq., Hunton and Williams, Riverfront Plaza, East Tower, 951 E. Byrd Street, Richmond, Virginia 23219.

NRC Project Director: Herbert N. Berkow

Virginia Electric and Power Company, Docket Nos. 50-280 and 50-281, Surry Power Station, Unit Nos. 1 and 2, Surry County, Virginia

Date of amendment request: July 2, 1993

Description of amendment request: The proposed amendment would modify the Technical Specifications to include a Core Operating Limits Report which presents reload-specific limits for key core operating parameters.

Basis for proposed no significant hazards consideration determination: As required by 10 CFR 50.91(a), the licensee has provided its analysis of the issue of no significant hazards consideration, which is presented below, which will not:

1. Involve a significant increase in the probability or consequences of an accident previously evaluated. The removal of cycle-specific core operating limits from the Surry Technical Specifications has no influence or impact on the probability or consequences of any accident previously evaluated. The cycle-specific core operating limits, although not in Technical Specifications, will be followed in the operation of Surry. The proposed amendment still requires exactly the same actions to be taken when or if limits are exceeded as is required by the current Technical Specifications. Each accident analysis addressed in the Surry UFSAR [Updated Final Safety Analysis Report] will be examined with respect to changes in cycle-dependent parameters, which are determined by application of NRC-approved reload design methodologies. The impact of these parameter changes on transient results will be evaluated to ensure that the results remain bounded by respective transient analysis acceptance criteria. This examination, which will be performed per the requirements of 10 CFR 50.59, ensures that future reloads will not involve an increase in the probability or consequences of an accident previously evaluated.

2. Create the possibility of a new or different kind of accident from any accident previously evaluated. As stated earlier, the removal of the cycle-specific core operating limits has no influence or impact, nor does it contribute in any way to the probability or consequences of any accident previously evaluated. No safety-related equipment, safety function, or plant operating characteristic will be altered as a result of the proposed changes. The cycle-specific variables are calculated using NRC-approved methods, and are submitted to the NRC for information in accordance with Technical Specification 6.2. The Technical Specifications will continue to require operation within the required core operating limits, and appropriate actions will be taken when or if limits are exceeded.

Therefore, the proposed amendment does not in any way create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Involve a significant reduction in a margin of safety. The margin of safety is not affected by the removal of cycle-specific core operating limits from the Technical Specifications. The margin of safety presently provided by current Technical Specifications remains unchanged. Appropriate measures exist to control the values of these cycle-specific limits. The proposed amendment continues to require operation within the core limits which were developed from the NRC-approved reload design methodologies. Further, the actions to be taken when or if limits are violated remain unchanged. Development of limits for future reloads will continue to conform to those methods described in NRC-approved documentation. In addition, each reload requires a 10 CFR 50.59 safety review to assure that operation of the unit within the cycle-specific limits will not involve a reduction in any margin of safety. Therefore, the proposed changes are administrative in nature and do not impact the operation of Surry in a manner that involves a reduction in a margin of safety.

The NRC staff has reviewed the licensee's analysis and, based on this review, it appears that the three standards of 50.92(c) are satisfied. Therefore, the NRC staff proposes to determine that the amendment request involves no significant hazards consideration.

Local Public Document Room location: Swem Library, College of William and Mary, Williamsburg, Virginia 23185.

Attorney for licensee: Michael W. Maupin, Esq., Hunton and Williams, Riverfront Plaza, East Tower, 951 E. Byrd Street, Richmond, Virginia 23219.

NRC Project Director: Herbert N. Berkow

Virginia Electric and Power Company, Docket Nos. 50-280 and 50-281, Surry Power Station, Unit Nos. 1 and 2, Surry County, Virginia

Date of amendment request: July 16, 1993

Description of amendment request: The proposed amendments would revise the Technical Specifications for Surry Units 1 and 2 by permitting operation with a three degree increase in the service water temperature limit for containment air partial pressures of 9.1, 9.2, and 9.35 psia. Also, a typographical error from

Amendment No. 172 and 171, dated January 22, 1993, involving transposed numbers for reactor coolant temperature and pressure would be corrected.

Basis for proposed no significant hazards consideration determination: As required by 10 CFR 50.91(a), the licensee has provided its analysis of the issue of no significant hazards consideration, which is presented below:

Operation of Surry Power Station in accordance with the proposed Technical Specifications changes will not:

1. Involve a significant increase in the probability of occurrence or consequences of an accident previously evaluated.

Operating with increased service water temperature limits does not affect the frequency of accident initiating events. The increased service water temperature limit of 95°F has no effect on plant operations. Therefore the probability of an accident previously analyzed is not increased. Furthermore, other plant systems are designed for operation with 95°F service water.

Although the service water temperature limit is being increased, the containment will continue to meet its design basis acceptance criteria following a large-break loss of coolant accident as identified in the UPSAR [Updated Final Safety Analysis Report]. Likewise, the administrative changes have no impact on plant operations. Therefore, there is no increase in the consequences of any accident previously evaluated resulting from operation of Surry Units 1 and 2 with an increased service water temperature limit.

2. Create the possibility of a new or different kind of accident from any accident previously evaluated.

There are no new failure modes or mechanisms associated with operating Surry Units 1 and 2 with an increased service water temperature limit of 95°F. As noted above increased service water temperature limits do not affect plant operations. Furthermore, other plant systems are designed for operation with 95°F service water. Likewise, the administrative changes have no impact on plant operations. Therefore, there are no new or different kinds of accidents created by operation of Surry Units 1 and 2 with increased service water temperature limits.

3. Involve a significant reduction in a margin of safety.

The limiting containment analyses continue to be met when operating with the proposed increase to service water temperature limits. Containment integrity will not be challenged but continue to meet its design basis acceptance criteria following a large break loss of coolant accident. Likewise, the administrative changes have no impact on plant operations. Therefore, the existing margin of safety is not reduced by operation of Surry Units 1 and 2 with an increased service water temperature limit.

The NRC staff has reviewed the licensee's analysis and, based on this review, it appears that the three standards of 50.92(c) are satisfied. Therefore, the NRC staff proposes to determine that the amendment request involves no significant hazards consideration.

Local Public Document Room location: Swem Library, College of William and Mary, Williamsburg, Virginia 23185.

Attorney for licensee: Michael W. Maupin, Esq., Hunton and Williams, Riverfront Plaza, East Tower, 951 E. Byrd Street, Richmond, Virginia 23219.

NRC Project Director: Herbert N. Berkow

Washington Public Power Supply System, Docket No. 50-397, Nuclear Project No. 2, Benton County, Washington

Date of amendment request: June 2, 1993

Description of amendment request: The amendment proposes to change Section 6 (Administrative Controls) section of the Technical Specifications (TS) to modify the reporting relationship of the Corporate Nuclear Safety Review Board (CNSRB) from the Managing Director to the Assistant Managing Director for Operations.

Basis for proposed no significant hazards consideration determination: As required by 10 CFR 50.91(a), the licensee has provided its analysis of the issue of no significant hazards consideration. The staff's evaluation of the licensee's analysis is presented below.

1. Does the amendment involve a significant increase in the probability or consequences of an accident previously identified?

The changes are administrative in nature and involve no physical alteration of the plant, or changes to setpoints, operating conditions, or operating parameters. The response of the plant to previously evaluated accidents thus is not affected. Therefore, the proposed change will not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the amendment create the possibility of a new or different kind of accident from any accident previously evaluated?

The administrative nature of the proposed changes does not affect the design, operation, maintenance, or testing of the plant. Thus no new failure modes are created. Therefore, these changes do not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does the amendment involve a significant reduction in a margin of safety?

The proposed changes are proposed to further implement a previously approved license amendment that modified the designation of the corporate official responsible for overall plant nuclear safety. The proposed change is administrative in nature, and does not affect the margins of safety in the current licensing basis. Therefore, these changes do not involve a significant reduction in a margin to safety.

The NRC staff has determined that it appears that the three standards of 50.92(c) are satisfied. Therefore, the NRC staff proposes to determine that the amendment request involves no significant hazards consideration.

Local Public Document Room location: Richland Public Library, 955 Northgate Street, Richland, Washington 99352

Attorney for licensee: Nicholas S. Reynolds, Esq., Winston & Strawn, 1400 L Street, N.W., Washington, D.C. 20005-3502

NRC Project Director: Theodore R. Quay

Wisconsin Public Service Corporation, Docket No. 50-305, Kewaunee Nuclear Power Plant, Kewaunee County, Wisconsin

Date of amendment request: June 22, 1993

Description of amendment request: The proposed amendment would change the Kewaunee Nuclear Power Plant (KNPP) Technical Specifications (TS) Section 1.0 to define frequency notations for surveillance requirements. Sections 3.2 and 3.3 would be revised to incorporate formatting changes and to correct minor typographical errors as part of converting the TS document to the WordPerfect software. In Section 3.10, "every shift" would be changed to "at least once per 8 hours" as applicable. Section 4.2 would be changed to revise an incorrect reference, and Section 6 would be revised to remove audit frequencies, define "vital areas," and extend the reporting period for the Radioactive Effluent Release Report from semiannual to annual.

Basis for proposed no significant hazards consideration determination: As required by 10 CFR 50.91(a), the licensee has provided its analysis of the issue of no significant hazards consideration. The NRC staff has reviewed the licensee's analysis against the standards of 10 CFR 50.92(c). The staff's review is presented below:

The proposed changes would not involve a significant increase in the probability or consequences of an accident previously evaluated. The proposed change to incorporate frequency notations is similar to NUREG-0452, Westinghouse Standard Technical Specifications, which currently define a shift as being 12 hours. This proposed change would not affect the availability or reliability of safety-related equipment; therefore it would not have an affect on the probability of an accident previously evaluated.

The proposed change to eliminate the frequency requirements for the Nuclear

Safety Review and Audit Committee (NSRAC) audits is not a significant change and would not impact the daily operation of the plant. Because it would allow more flexibility in assigning resources to work on weak or poor performance areas, the plant safety performance may be improved. The other proposed changes are administrative in nature and would not change the intent of the Technical Specifications. Therefore, the probability or consequences of an accident previously evaluated would not be increased.

The proposed changes would not create the possibility of a new or different kind of accident from any accident previously evaluated. The proposed changes would not alter the plant configuration, operating setpoints, or overall plant performance.

The proposed changes would not involve a significant reduction in the margin of safety. Changing the frequency of channel checks from once every 8 hours to once every 12 hours is consistent with NUREG-0452, Westinghouse Standard Technical Specifications, and would not significantly decrease safety due to the low probability of a failed channel going unnoticed during the extended (4 hour) time period. Eliminating the frequency requirements for the NSRAC audits is not a significant change and would not affect the operation of the plant; therefore, there would be no change in the margin of safety. The other proposed changes are administrative in nature and would not change the intent of the Technical Specifications. Therefore, they would not involve a significant reduction in the margin of safety.

Based on this review, it appears that the three standards of 50.92(c) are satisfied. Therefore, the NRC staff proposes to determine that the amendment request involves no significant hazards consideration.

Local Public Document Room location: University of Wisconsin Library Learning Center, 2420 Nicolet Drive, Green Bay, Wisconsin 54301.

Attorney for licensee: Bradley D. Jackson, Esq., Foley and Lardner, P. O. Box 1497, Madison, Wisconsin 53701-1497.

NRC Project Director: John N. Hannon.

Previously Published Notices of Consideratin of Issuance of Amendments to Facility Operating Licenses, Proposed No Significant Hazards Consideration Determination, and Opportunity for a Hearing

The following notices were previously published as separate individual notices. The notice content was the same as above. They were published as individual notices either because time did not allow the Commission to wait for this biweekly notice or because the action involved exigent circumstances. They are repeated here because the biweekly notice lists all amendments issued or proposed to be issued involving no significant hazards consideration.

For details, see the individual notice in the **Federal Register** on the day and page cited. This notice does not extend the notice period of the original notice.

Duke Power Company, Docket Nos. 50-369 and 50-370, McGuire Nuclear Station, Units 1 and 2, Mecklenburg County, North Carolina

Date of amendment request: July 13, 1993

Description of amendment request: The proposed amendments would revise the boron concentration limits within the refueling Water Storage Tank and within the Cold Leg Accumulators in order to support the safe operation of McGuire Unit 2 Cycle 9 and subsequent cycles.

Date of publication of individual notice in **Federal Register:** July 23, 1993 (58 FR 39581)

Expiration date of individual notice: August 23, 1993

Local Public Document Room location: Atkins Library, University of North Carolina, Charlotte (UNCC Station), North Carolina 28223

Maine Yankee Atomic Power Company, Docket No. 50-309, Maine Yankee Atomic Power Station, Lincoln County, MaineDate of Amendment: June 7, 1993

Description of amendment request: The proposed amendment would delete the five-page list of safety-related shock suppressors (snubbers) from Technical Specification (TS) 3.20 and provide an additional Applicability statement. The additional Applicability statement clearly defines the safety-related scope of the snubber surveillance testing, and the recordkeeping requirements are changed to reflect the safety-related scope of the snubber program at Maine Yankee.

Date of publication of individual notice in **Federal Register:** July 14, 1993 (58 FR 37922)

Expiration date of individual notice: August 13, 1993

Local Public Document Room location: Wiscasset Public Library, High Street, P.O. Box 367, Wiscasset, Maine 04578.

Attorney for licensee: Thomas G. Dignan, Jr., Esquire., Ropes and Gray, One International Place, Boston, Massachusetts 02110-2624

NRC Project Director: Walter R. Butler

Notice of Issuance of Amendments to Facility Operating Licenses

During the period since publication of the last biweekly notice, the Commission has issued the following amendments. The Commission has determined for each of these amendments that the application complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations. The Commission has made appropriate findings as required by the Act and the Commission's rules and regulations in 10 CFR Chapter I, which are set forth in the license amendment.

Notice of Consideration of Issuance of Amendment to Facility Operating License, Proposed No Significant Hazards Consideration Determination, and Opportunity for A Hearing in connection with these actions was published in the **Federal Register** as indicated.

Unless otherwise indicated, the Commission has determined that these amendments satisfy the criteria for categorical exclusion in accordance with 10 CFR 51.22. Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared for these amendments. If the Commission has prepared an environmental assessment under the special circumstances provision in 10 CFR 51.12(b) and has made a determination based on that assessment, it is so indicated.

For further details with respect to the action see (1) the applications for amendment, (2) the amendment, and (3) the Commission's related letter, Safety Evaluation and/or Environmental Assessment as indicated. All of these items are available for public inspection at the Commission's Public Document Room, the Gelman Building, 2120 L Street, NW., Washington, DC 20555, and at the local public document rooms for the particular facilities involved.

Carolina Power & Light Company, et al., Docket Nos. 50-325 and 50-324, Brunswick Steam Electric Plant, Units 1 and 2, Brunswick County, North Carolina

Date of application for amendments: April 15, 1993

Brief description of amendments: The amendments to the Facility Operating Licenses supersede and rescind Confirmatory Order EA-82-106, dated December 22, 1982.

Date of issuance: July 19, 1993

Effective date: Effective immediately upon issuance.

Amendment Nos.: 163 and 194

Facility Operating License Nos. DPR-71 and DPR-62. Amendments revise the Facility Operating Licenses.

Date of initial notice in Federal Register: June 9, 1993 (58 FR 32378)

The Commission's related evaluation of the amendments is contained in a Safety Evaluation dated July 19, 1993.

No significant hazards consideration comments received: No.

Local Public Document Room location: University of North Carolina at Wilmington, William Madison Randall Library, 601 S. College Road, Wilmington, North Carolina 28403-3297.

Commonwealth Edison Company, Docket Nos. 50-295 and 50-304, Zion Nuclear Power Station Units 1 and 2, Lake County, Illinois

Date of application for amendments: May 26, 1993

Brief description of amendments: The amendments revise the Technical Specifications (TS) by deleting the requirement to perform a quarterly equalization charge of the DC battery from the TS and placing it under the licensee's control.

Date of issuance: July 12, 1993

Effective date: July 12, 1993

Amendment Nos.: 147 and 135

Facility Operating License Nos. DPR-39 and DPR-48. The amendments revised the Technical Specifications.

Date of initial notice in Federal Register: June 9, 1993 (58 FR 32380)

The Commission's related evaluation of the amendments is contained in a Safety Evaluation dated July 12, 1993.

No significant hazards consideration comments received: No

Local Public Document Room location: Waukegan Public Library, 128 N. County Street, Waukegan, Illinois 60085.

Consolidated Edison Company of New York, Docket No. 50-247, Indian Point Nuclear Generating Unit No. 2, Westchester County, New York

Date of application for amendment: April 1, 1993

Brief description of amendment: The amendment revises the Administrative Controls section of the TS. Senior management functions related to the Nuclear Facilities Safety Committee (NFSC) are reassigned from the President of the Company to the Executive Vice President - Central Operations. The change also eliminates the requirement for the NFSC to review and concur in the administrative control procedure which describes the policy for changing, reviewing, and approving procedures. The Vice President, Nuclear Power, now concurs in place of the NFSC.

Date of issuance: July 13, 1993

Effective date: As of the date of issuance to be implemented within 30 days.

Amendment No.: 164

Facility Operating License No. DPR-26: Amendment revised the Technical Specifications.

Date of initial notice in Federal Register: June 9, 1993 (58 FR 32381)

The Commission's related evaluation of the amendment is contained in a Safety Evaluation dated July 13, 1993.

No significant hazards consideration comments received: No

Local Public Document Room location: White Plains Public Library, 100 Martine Avenue, White Plains, New York 10610.

Duke Power Company, Docket Nos. 50-369 and 50-370, McGuire Nuclear Station, Units 1 and 2, Mecklenburg County, North Carolina

Date of application for amendments: January 27, 1993, as supplemented March 15 and June 4, 1993

Brief description of amendments: The amendments revise the frequency for the Radiological Effluents Report, and modify the requirements for "Fuel Assemblies" in the "Design Features" Section of the Technical Specification in accordance with Generic Letter 90-02, Supplement 1.

Date of issuance: July 19, 1993

Effective date: July 19, 1993

Amendment Nos.: 137 and 119

Facility Operating License Nos. NPF-9 and NPF-17: Amendments revised the Technical Specifications.

Date of initial notice in Federal Register: June 9, 1993 (58 FR 32381)

The March 15 and June 4, 1993, letters provided clarifying information that did not change the initial proposed no significant hazards consideration determination.

The Commission's related evaluation of the amendments is contained in a Safety Evaluation dated July 19, 1993.

No significant hazards consideration comments received: No.

Local Public Document Room location: Atkins Library, University of North Carolina, Charlotte (UNCC Station), North Carolina 28223

Duquesne Light Company, et al., Docket No. 50-412, Beaver Valley Power Station, Unit 2, Shippingport, Pennsylvania

Date of application for amendment: October 1, 1990, as supplemented May 28 and December 30, 1992.

Brief description of amendment: The amendment revises the Appendix A Technical Specifications (TSs) relating to turbine valve testing. The amendment modifies Technical Specification 4.3.4.2 by revising the frequency of reheat stop and intercept valve testing to once per 18 months, makes certain terminology consistent with other plant documents, and relaxes the inspection cycle to a maximum of 60 months under certain conditions.

Date of issuance: July 13, 1993

Effective date: July 13, 1993

Amendment No: 53

Facility Operating License No. NPF-73. Amendment revised the Technical Specifications.

Date of initial notice in Federal Register: May 26, 1993 (58 FR 30192)

The May 28 and December 30, 1992, supplements provided information that did not change the initial no significant hazards consideration determination.

The Commission's related evaluation of the amendment is contained in a Safety Evaluation dated July 13, 1993.

No significant hazards consideration comments received: No

Local Public Document Room location: B. F. Jones Memorial Library, 663 Franklin Avenue, Aliquippa, Pennsylvania 15001.

Entergy Operations, Inc., Docket No. 50-382, Waterford Steam Electric Station, Unit 3, St. Charles Parish, Louisiana

Date of amendment request: April 24, 1992, as supplemented by letter dated February 25, 1993

Brief description of amendment: The amendment revised the Technical Specifications by removing the wall-cracking surveillance from the basemat cracking program. The amendment also changed the term "mapping" to "monitoring," as proposed by the licensee's February 25, 1993, letter.

Date of issuance: July 8, 1993

Effective date: July 8, 1993

Amendment No.: 82

Facility Operating License No. NPF-38. Amendment revised the Technical Specifications.

Date of initial notice in Federal Register: June 24, 1992 (57 FR 28200)

The additional information contained in the supplemental letter dated February 25, 1993, was clarifying in nature and, thus, within the scope of the initial notice and did not affect the staff's proposed no significant hazards consideration determination.

The Commission's related evaluation of the amendment is contained in a Safety Evaluation dated July 8, 1993.

No significant hazards consideration comments received: No

Local Public Document Room location: University of New Orleans Library, Louisiana Collection, Lakefront, New Orleans, Louisiana 70122.

GPU Nuclear Corporation, Docket No. 50-320, Three Mile Island Nuclear Station, Unit No. 2, (TMI-2), Dauphin County, Pennsylvania

Date of application for amendment: March 17, 1992, as supplemented June 18 and December 23, 1992.

Brief description of amendment: The amendment revised the TMI-2 license by modifying the Appendix A and B Technical Specifications, relocating requirements related to radiological effluents to a new document called the Offsite Dose Calculation Manual (ODCM) which applies to both TMI-1 and TMI-2. The removal of these requirements from the TS are in accordance with the guidance in NRC staff issued Generic Letter 89-01 dated January 31, 1989.

Date of issuance: May 26, 1993

Effective date: May 26, 1993

Amendment No.: 43

Facility Operating License No. DPR-73. Amendment revised the Technical Specifications.

Date of initial notice in **Federal Register:** March 25, 1993 (58FR 16226) The NRC evaluation of this amendment is contained in a Safety Evaluation dated May 26, 1993.

No significant hazards consideration comments received: No

Local Public Document Room location: Government Publications Section, State Library of Pennsylvania, Walnut Street and Commonwealth Avenue, Box 1601, Harrisburg, Pennsylvania 17105

GPU Nuclear Corporation, Docket No. 50-320, Three Mile Island Nuclear Station, Unit No. 2, (TMI-2), Dauphin County, Pennsylvania

Date of application for amendment: August 1, 1991

Brief description of amendment: This amendment modifies the Appendix A Technical Specifications by substituting numerical criteria to limit Processed Water Disposal System (PWDS) operations and effluents in lieu of the current technical specification which requires NRC review and approval of operating procedures to limit PWDS operations and effluents.

Date of issuance: July 12, 1993

Effective date: July 12, 1993

Amendment No.: 44

Facility Operating License No. DPR-73. Amendment revised the Technical Specifications.

Date of initial notice in **Federal Register:** March 25, 1993 (58 FR 16225) The Commission's related evaluation of this amendment is contained in a Safety Evaluation dated July 12, 1993.

No significant hazards consideration comments received: No

Local Public Document Room location: Government Publications Section, State Library of Pennsylvania, Walnut Street and Commonwealth Avenue, Box 1601, Harrisburg, Pennsylvania 17105.

Houston Lighting & Power Company, City Public Service Board of San Antonio, Central Power and Light Company, City of Austin, Texas, Docket Nos. 50-498 and 50-499, South Texas Project, Units 1 and 2, Matagorda County, Texas

Date of amendment request: August 18, 1992

Brief description of amendment request: The amendment revises Technical Specification (TS) 3.6.3, "Containment Isolation Valves," by changing the wording in the Action Statement to require at least one isolation barrier to be maintained operable, as opposed to at least one isolation valve. A footnote is also added to clarify that an isolation barrier may either be an isolation valve or a closed system as defined by General Design Criteria (GDC) 57 of Appendix A to 10 CFR Part 50.

Date of issuance: July 12, 1993

Effective date: July 12, 1993

Amendment Nos.: 53 and 42

Facility Operating License Nos. NPF-76 and NPF-80. Amendment revised the Technical Specifications.

Date of initial notice in **Federal Register:** June 9, 1993 (58 FR 32384) The Commission's related evaluation of the amendments is contained in a Safety Evaluation dated July 12, 1993

No significant hazards consideration comments received: No.

Local Public Document Room location: Wharton County Junior College, J. M. Hodges Learning Center, 911 Boling Highway, Wharton Texas 77488.

Illinois Power Company and Soyland Power Cooperative, Inc., Docket No. 50-461, Clinton Power Station, Unit No. 1, DeWitt County, Illinois

Date of application for amendment: April 16, 1992

Brief description of amendment: The amendment changes Clinton Power Station Technical Specification Figure 3.1.5-1, "Weight Percent Sodium Pentaborate Solution as a Function of Net Tank Volume," to show the reduction in net tank volume that results from raising the Standby Liquid Control System storage tank level instrument zero to prevent potential air entrainment in the pump suction piping due to vortexing. Additionally the Technical Specification Bases which describe this curve have been revised to reflect the changes.

Date of issuance: July 15, 1993

Effective date: July 15, 1993

Amendment No.: 78

Facility Operating License No. NPF-62. The amendment revised the Technical Specifications.

Date of initial notice in **Federal Register:** April 28, 1993 (58 FR 25856) The Commission's related evaluation of the amendment is contained in a Safety Evaluation dated July 15, 1993.

No significant hazards consideration comments received: No

Local Public Document Room location: The Vespasian Warner Public Library, 120 West Johnson Street, Clinton, Illinois 61727.

Illinois Power Company and Soyland Power Cooperative, Inc., Docket No. 50-461, Clinton Power Station, Unit No. 1, DeWitt County, Illinois

Date of application for amendment: August 31, 1990, and August 16, 1991, as supplemented on December 20, 1990, and October 17, 1991

Brief description of amendment: The amendment eliminates contradictory statements, allows adequate time to perform required surveillances without resulting in a violation of Technical Specification 4.0.4, clarifies startup surveillance requirements, and establishes plant conditions to perform surveillances associated with change of plant operational conditions.

Date of issuance: July 15, 1993

Effective date: Immediately, to be implemented within 30 days.

Amendment No.: 79

Facility Operating License No. NPF-62. The amendment revised the Technical Specifications.

Date of initial notice in **Federal Register:** October 3, 1990 (55 FR 40469) and December 11, 1991 (56 FR 64654). The December 20, 1990, and October 17, 1991, submittals consisted of revisions/clarifications whichdid not change the staff's initial proposed no significant hazards consideration determination.

The Commission's related evaluation of the amendment is contained in a Safety Evaluation dated July 15, 1993.

No significant hazards consideration comments received: No

Local Public Document Room location: The Vespasian Warner Public Library, 120 West Johnson Street, Clinton, Illinois 61727.

Illinois Power Company and Soyland Power Cooperative, Inc., Docket No. 50-461, Clinton Power Station, Unit No. 1, DeWitt County, Illinois

Date of application for amendment: August 17, 1992

Brief description of amendment: The amendment modifies Clinton Power Station Technical Specification 3/4.8.1.1, "AC Sources - Operating," to update the testing requirements for the fuel oil used by the standby diesel generators.

Date of issuance: July 15, 1993

Effective date: July 15, 1993

Amendment No.: 80

Facility Operating License No. NPF-62. The amendment revised the Technical Specifications.

Date of initial notice in **Federal Register:** October 28, 1992 (57 FR 48820) The Commission's related evaluation of the amendment is contained in a Safety Evaluation dated July 15, 1993.

No significant hazards consideration comments received: No

Local Public Document Room location: The Vespasian Warner Public Library, 120 West Johnson Street, Clinton, Illinois 61727.

Illinois Power Company and Soyland Power Cooperative, Inc., Docket No. 50-461, Clinton Power Station, Unit No. 1, DeWitt County, Illinois

Date of application for amendment: April 16, 1993

Brief description of amendment: The amendment changes Clinton Power Station Technical Specifications 3/4.1.3.2, "Control Rod Maximum Scram Insertion Times," 3/4.4.2.1, "Safety/Relief Valves," and 3/4.5.1, "Emergency Core Cooling Systems." The changes reduce, or mitigate, certain time restrictions associated with surveillance testing required during plant startup.

Date of issuance: July 15, 1993

Effective date: July 15, 1993

Amendment No.: 81

Facility Operating License No. NPF-62. The amendment revised the Technical Specifications.

Date of initial notice in **Federal Register:** May 26, 1993 (58 FR 30196) The Commission's related evaluation of the amendment is contained in a Safety Evaluation dated July 15, 1993.

No significant hazards consideration comments received: No

Local Public Document Room location: The Vespasian Warner Public Library, 120 West Johnson Street, Clinton, Illinois 61727.

Nebraska Public Power District, Docket No. 50-298, Cooper Nuclear Station, Nemaha County, Nebraska

Date of amendment request: September 2, 1992, as supplemented by letter dated June 23, 1993.

Brief description of amendment: The amendment revised the technical specifications for the Cooper Nuclear Station to (1) increase the minimum amount of diesel fuel oil capacity required to be available in the on-site storage tanks, (2) update the standard to which the diesel fuel oil quality is tested to a more recent edition of the same standard, and (3) add additional testing requirements for particulates and water in the diesel fuel oil.

Date of issuance: July 16, 1993

Effective date: 30 days after its date of issuance

Amendment No.: 165

Facility Operating License No. DPR-46. Amendment revised the Technical Specifications.

Date of initial notice in **Federal Register:** December 23, 1992 (57 FR 61113) The Commission's related evaluation of the amendment is contained in a Safety Evaluation dated July 16, 1993.

No significant hazards consideration comments received:

Local Public Document Room location: Auburn Public Library, 118 15th Street, Auburn, Nebraska 68305.

Niagara Mohawk Power Corporation, Docket No. 50-220, Nine Mile Point Nuclear Station Unit No. 1, Oswego County, New York

Date of application for amendment: May 14, 1993, as supplemented June 30, 1993

Brief description of amendment: The amendment revises the Appendix A Technical Specifications (TSs) to correct obvious typographical errors, add temperature degree signs (°), add commas and periods for clarity, provide consistent page headings/titles, adjust line spacing (repagination), remove intentionally blank pages, renumber pages, remove outdated footnotes, and add the delta symbol in place of the word delta. In addition, the amendment deletes pertinent portions of the TSs that related to one-time only date extensions which have since expired, corrects references to revised regulations, deletes an outdated last paragraph in Bases Sections 3.3.7 and 4.3.7, adds clarifying headings of "Shutdown," "Refuel," "Startup," and "Run" to TS Tables 3.6.2f and 3.6.2h, and deletes footnotes and table notations referring to the completed Hydrogen Water Chemistry feasibility test. The changes are purely administrative and do not involve substantive changes to the TSs.

Date of issuance: July 14, 1993

Effective date: As of the date of issuance to be implemented within 30 days.

Amendment No.: 142

Facility Operating License No. DPR-63: Amendment revises the Technical Specifications.

Date of initial notice in **Federal Register:** June 9, 1993 (58 FR 32385) The Commission's related evaluation of the amendment is contained in a Safety Evaluation dated July 14, 1993.

No significant hazards consideration comments received: No

Local Public Document Room location: Reference and Documents Department, Penfield Library, State University of New York, Oswego, New York 13126.

Niagara Mohawk Power Corporation, Docket No. 50-410, Nine Mile Point Nuclear Station, Unit 2, Oswego County, New York

Date of application for amendment: May 18, 1993

Brief description of amendment: The amendment revises Technical Specification 4.6.1.2.a to provide a one-time extension of the required test interval for overall integrated containment leak rate tests (Type A tests). This extension allows the second Type A test of the first 10-year service period to be performed during the fourth refueling outage and expires upon completion of that refueling outage.

Date of issuance: July 12, 1993

Effective date: As of the date of issuance to be implemented within 30 days.

Amendment No.: 43

Facility Operating License No. NPF-69: Amendment revises the Technical Specifications.

Date of initial notice in **Federal Register:** June 9, 1993 (58 FR 32387) The Commission's related evaluation of the amendment is contained in a Safety Evaluation dated July 12, 1993.

No significant hazards consideration comments received: No

Local Public Document Room location: Reference and Documents Department, Penfield Library, State University of New York, Oswego, New York 13126.

Niagara Mohawk Power Corporation, Docket No. 50-410, Nine Mile Point Nuclear Station, Unit 2, Oswego County, New York

Date of application for amendment: December 30, 1992, as supplemented May 19, 1993.

Brief description of amendment: The amendment revises TS 3.4.3.1, 3.4.3.2, and 4.4.3.2.1.b. and association Bases to incorporate the NRC staff positions on reactor coolant system leakage detection delineated in Generic Letter 88-01, "NRC Position on IGSCC in BWR Austenitic Stainless Steel Piping."

Date of issuance: July 21, 1993

Effective date: July 21, 1993

Amendment No.: 44

Facility Operating License No. NPF-69: Amendment revises the Technical Specifications.

Date of initial notice in **Federal Register:** February 17, 1993 (58 FR 8774) The Commission's related evaluation of the amendment is contained in a Safety Evaluation dated July 21, 1993.

No significant hazards consideration comments received: No

Local Public Document Room location: Reference and Documents Department, Penfield Library, State University of New York, Oswego, New York 13126.

Northeast Nuclear Energy Company, et al., Docket No. 50-423, Millstone Nuclear Power Station, Unit No. 3, New London County, Connecticut

Date of application for amendment: March 19, 1993 (Partial)

Brief description of amendment: The amendment changes the allowed out of service time for a single low temperature overpressure protection channel from 7 days to 24 hours when in operating Modes 4, 5, and 6. The remainder of the changes requested in the March 19, 1993, submittal will be addressed separately.

Date of issuance: July 12, 1993

Effective date: July 12, 1993

Amendment No.: 80

Facility Operating License No. NPF-49. Amendment revised the Technical Specifications.

Date of initial notice in **Federal Register:** June 9, 1993 (58 FR 32388) The Commission's related evaluation of the amendment is contained in a Safety Evaluation dated July 12, 1993.

No significant hazards consideration comments received: No.

Local Public Document Room location: Learning Resources Center, Thames Valley State Technical College, 574 New London Turnpike, Norwich, Connecticut 06360.

Northern States Power Company, Docket No. 50-263, Monticello Nuclear Generating Plant, Wright County, Minnesota

Date of application for amendment: December 31, 1992.

Brief description of amendment: Amendment changes Limiting Condition for Operation 3.8.A.2, Reactivity Margin - Stuck Control Rods, and its corresponding Surveillance Requirement to eliminate an optional alternative to control rod drive testing requirements and rewrites the technical specification to clarify its intent.

Date of issuance: July 12, 1993

Effective date: July 12, 1993

Amendment No.: 86

Facility Operating License No. DPR-22. Amendment revised the Technical Specifications.

Date of initial notice in **Federal Register:** June 9, 1993 (58 FR 32388). The Commission's related evaluation of the amendment is contained in a Safety Evaluation dated July 12, 1993.

No significant hazards consideration comments received: No.

Local Public Document Room location: Minneapolis Public Library, Technology and Science Department, 300 Nicollet Mall, Minneapolis, Minnesota 55401.

Philadelphia Electric Company, Public Service Electric and Gas Company Delmarva Power and Light Company, and Atlantic City Electric Company, Docket Nos. 50-277 and 50-278, Peach Bottom Atomic Power Station, Unit Nos. 2 and 3, York County, Pennsylvania

Date of application for amendments: February 26, 1993

Brief description of amendments: These amendments change the surveillance testing interval for the Logic System Functional Tests (LSFTs) for the 1) Primary Containment Isolation System (PCIS), 2) Core Standby Cooling System (CSCS), 3) Control Rod Block Actuation System and 4) Radiation Monitoring System actuations. The revised surveillance tests will require the performance of the LSFTs once-per-operating-cycle rather than once-per-6-months as was previously required. Currently, an operating cycle is defined in the Technical Specifications as at least once per 550 days, with an additional 25% grace period allowed.

Date of issuance: July 15, 1993

Effective date: July 15, 1993Amendments Nos.: 178 and 181

Facility Operating License Nos. DPR-44 and DPR-56: Amendments revised the Technical Specifications.

Date of initial notice in **Federal Register:** March 31, 1993 (58 FR 16868) The Commission's related evaluation of the amendments is contained in a Safety Evaluation dated July 15, 1993.

No significant hazards consideration comments received: No

Local Public Document Room location: Government Publications Section, State Library of Pennsylvania, (REGIONAL DEPOSITORY) Education Building, Walnut Street and Commonwealth Avenue, Box 1601, Harrisburg, Pennsylvania 17105.

Power Authority of the State of New York, Docket No. 50-333, James A. FitzPatrick Nuclear Power Plant, Oswego County, New York

Date of application for amendment: February 25, 1993

Brief description of amendment: The amendment revises certain Technical Specifications Limiting Conditions for Operation (LCO) action statements to adopt consistent terminology for the action statements and to more clearly distinguish between the different actions associated with each LCO. The amendment also adds required completion times to action statements that previously did not specify completion times and revises the resulting mode to be achieved if the action specified in the LCO action statement cannot be maintained.

Date of issuance: July 12, 1993.

Effective date: As of the date of issuance to be implemented within 30 days.

Amendment No.: 192

Facility Operating License No. DPR-59: Amendment revised the Technical Specifications.

Date of initial notice in **Federal Register:** June 9, 1993 (58 FR 32390) The Commission's related evaluation of the amendment is contained in a Safety Evaluation dated July 12, 1993.

No significant hazards consideration comments received: No

Local Public Document Room location: Reference and Documents Department, Penfield Library, State University of New York, Oswego, New York 13126.

Dated at Rockville, Maryland, this 26th day of July 1993.

For the Nuclear Regulatory Commission

John A. Zwolinski,

Acting Director, Division of Reactor Projects—III/IV/V, Office of Nuclear Reactor Regulation

[FR Doc. 93-18440 Filed 8-3-93; 8:45 am]

BILLING CODE 7590-01-F

[Docket No. 50-443]

North Atlantic Energy Service Corp. et al., Seabrook Station, Unit No. 1; Environmental Assessment and Finding of No Significant Impact

The U.S. Nuclear Regulatory Commission (the Commission) is considering issuance of an amendment to the Facility Operating License No. NPF-86 issued to North Atlantic Energy Service Corporation (North Atlantic, the licensee) for operation of the Seabrook

Station, Unit No. 1, located in Rockingham County, New Hampshire.

Environmental Assessment

Identification of the Proposed Action

The proposed amendment would change the footnote on page 1 of Facility Operating License NPF–86 to reflect that EUA Power Corporation has changed its name to Great Bay Power Corporation. EUA Power Corporation has been under the protection of chapter 11 of title 11 of the United States Bankruptcy Code since February 28, 1991. Great Bay Power Corporation is the reorganized entity that emerges from bankruptcy pursuant to the Plan for Reorganization which has been confirmed by the United States Bankruptcy Court for the District of New Hampshire.

The Need for the Proposed Action

The amendment is a condition of a requirement for the Bankruptcy Court's Plan for Reorganization of EUA Power Corporation to become effective. Changing EUA Power Corporation's name will not affect the operation of the facility or the facility's Technical Specifications.

Environmental Impacts of the Proposed Action

The Commission has completed its evaluation of the proposed change to the license. The proposed revision would allow EUA Power Corporation to change its name to Great Bay Power Corporation. There will be no changes to the operation and maintenance staff, or to the facility or the environment as a result of the license amendment. No changes are being made to the types or amounts of any effluents that may be released offsite, and there is no increase in the allowable individual or cumulative occupational radiation exposure.

Accordingly, the Commission concludes that this proposed action would result in no significant radiological or non-radiological environmental impact.

Alternative to the Proposed Action

As an alternative to the proposed action, the NRC staff considered denial of the proposed action. Denial of the application would result in no change in current environmental impacts. The environmental impacts of the proposed action and the alternative action are similar.

Alternative Use of Resources

This action does not involve the use of any resources not previously considered in the Final Environmental Statement for Seabrook Station.

Agencies and Persons Consulted

The NRC staff consulted with the State of New Hampshire and the Commonwealth of Massachusetts regarding the environmental impact of the proposed action.

Finding of No Significant Impact

Based upon the foregoing environmental assessment, the Commission concludes that the proposed action will not have a significant effect on the quality of the human environment. Accordingly, the Commission has determined not to prepare an environmental impact statement for the proposed license amendment.

The Notice of Consideration of Issuance of Amendment to Facility Operating License and Proposed No Significant Hazards Consideration Determination and Opportunity for Hearing in connection with this action was published in the **Federal Register** on June 23, 1993 (58 FR 34083).

For further details with respect to this action, see the request for approval dated May 14, 1993, which is available for public inspection at the Commission's Public Document Room, Gelman Building, 2120 L Street, NW., Washington, DC 20555, and at the local public document room located at the Exeter Public Library, 47 Front Street, Exeter, New Hampshire 03833.

Dated at Rockville, Maryland, this 28th day of July, 1993.

For The Nuclear Regulatory Commission.

John F. Stolz,

Director, Project Directorate I–4, Division of Reactor Projects—I/II, Office of Nuclear Reactor Regulation.

[FR Doc. 93–18594 Filed 8–3–93; 8:45 am]

BILLING CODE 7590–01–M

Radiation Exposure Monitoring and Information Transmittal (REMIT) System; Availability

The Nuclear Regulatory Commission (NRC) announces the release of a new software package, REMIT, for electronically reporting radiation exposure measurements to the NRC. REMIT is designed to assist NRC licensees in meeting the reporting requirements of 10 CFR 20.1001 through 20.2401 as outlined in Regulatory Guide 8.7, Revision 1, "Instructions for Recording and Reporting Occupational Radiation Exposure Data."

REMIT is a personal computer (PC)-based, menu-driven system that facilitates the manipulation of data base files to record and report radiation exposure information. REMIT is designed to be user-friendly and contains the full text of Regulatory Guide 8.7, Revision 1, online as well as context sensitive help throughout the program. The user can enter data directly from NRC Form 4 or Form 5. REMIT allows the user to view the individual's exposure in relation to regulatory or administrative limits and will alert the user to exposures in excess of these limits. The system also provides for the calculation and summation of dose from intakes and the determination of the dose to the maximally exposed extremity for the monitoring year. REMIT can produce NRC Forms 4 and 5 in paper and electronic format. In addition, REMIT can import and export data from ASCII and data base files.

REMIT includes a user manual (NUREG/CR–6050) and two 3.5-inch, high density, double-sided, disks. The software has been beta tested, and telephone support will be provided for one year. Installation assistance will be available thereafter from the Energy Science and Technology Software Center. For additional information, inquiries should be directed to Jayne M. McCausland at (301) 492–3643.

The REMIT software package is available for a discounted price of $59.00 ($89.00 outside North America) until June 1994. To order, please send your name, company name and address, and day and evening telephone numbers where you may be reached, along with payment to the Energy Science and Technology Software Center, P.O. Box 1020, Oak Ridge, TN 37831. Payment may be in the form of check or money order out to the Energy Science and Technology Software Center. Credit card orders can be made by calling (615) 576–2606.

Dated at Rockville, Maryland, this 28th day of July, 1993.

For the Nuclear Regulatory Commission.

Bill M. Morris,

Director, Division of Regulatory Applications, Office of Nuclear Regulatory Research.

[FR Doc. 93–18596 Filed 8–3–93; 8:45 am]

BILLING CODE 7590–01–M

Regulatory Guide; Issuance, Availability

The Nuclear Regulatory Commission has issued a new guide in its Regulatory Guide Series. This series has been developed to describe and make available to the public such information as methods acceptable to the NRC staff for implementing specific parts of the Commission's regulations, techniques used by the staff in evaluating specific problems or postulated accidents, and

data needed by the staff in its review of applications for permits and licenses.

Regulatory Guide 8.37, "ALARA Levels of Effluents from Materials Facilities," provides guidance on designing an acceptable program for establishing and maintaining radiation levels for gaseous and liquid effluents at materials facilities that are as low as is reasonably achievable. Materials facilities are facilities other than reactors licensed by the NRC for the possession or use of radioactive material.

Comments and suggestions in connection with items for inclusion in guides currently being developed or improvements in all published guides are encouraged at any time. Written comments may be submitted to the Regulatory Publications Branch, Division of Freedom of Information and Publications Services, Office of Administration, U.S. Nuclear Regulatory Commission, Washington, DC 20555.

Regulatory Guides are available for inspection at the Commission's Public Document Room, 2120 L Street, NW., Washington, DC. Copies of issued guides may be purchased from the Government Printing Office at the current GPO price. Information on current GPO prices may be obtained by contacting the Superintendent of Documents, U.S. Government Printing Office, Post Office Box 37082, Washington, DC 20013–7082, telephone (202) 512–2249 or (202) 512–2171. Issued guides may also be purchased from the National Technical Information Service on a standing order basis. Details on this service may be obtained by writing NTIS, 5285 Port Royal Road, Springfield, VA 22161.

(5 U.S.C. 552(a))

Dated at Rockville, Maryland, this 2 day of July 1993.

For the Nuclear Regulatory Commission.

C.J. Heltemes,

Deputy Director for Generic Issues and Rulemaking, Office of Nuclear Regulatory Research.

[FR Doc. 93–18595 Filed 8–3–93; 8:45 am]

BILLING CODE 7590–01–M

SECURITIES AND EXCHANGE COMMISSION

[Release No. 34–32686; International Series Release No. 568; File No. SR–PHLX–93–12]

Self-Regulatory Organizations; Notice of Filing of Proposed Rule Change by the Philadelphia Stock Exchange, Inc., Relating to the Margin Requirements for Cash/Spot Foreign Currency Option Contracts

July 28, 1993.

Pursuant to Section 19(b)(1) of the Securities Exchange Act of 1934 ("Act"), 15 U.S.C. 78s(b)(1), notice is hereby given that on April 6, 1993, the Philadelphia Stock Exchange, Inc. ("PHLX" or "Exchange") filed with the Securities and Exchange Commission ("SEC" or "Commission") the proposed rule change as described in Items I, II, and III below, which Items have been prepared by the self-regulatory organization. The Commission is publishing this notice to solicit comments on the proposed rule change from interested persons.

I. Self-Regulatory Organization's Statement of the Terms of Substance of the Proposed Rule Change

The PHLX proposes to amend Exchange Rule 722, "Margins," to establish margin levels for its proposed cash/spot foreign currency option contracts ("cash/spot FCOs").[1] Specifically, the PHLX proposes to amend Exchange Rule 722(c)(2)(B) to provide that, for cash/spot FCOs, the initial and/or maintenance margin requirement on any put or call issued, guaranteed or carried "short" in a customer's account shall be 100% of the current market value of the underlying cash/spot FCO plus 2.5% of the market value of the underlying contract less any out-of-the-money amount, with a minimum charge equal to the option premium plus ¾% of the market value of the underlying contract. In addition, the Exchange proposes to amend PHLX Rule 722(c)(6), "Time Within Which Margin or 'Mark-to-Market' Must be Obtained," to provide the amount of initial margin required with respect to short positions in the proposed cash/spot FCOs shall be obtained before the expiration of two full business days following the date on which the customer entered into the cash/spot FCO position. Additional margin required as a result of a mark-to-market must be posted as promptly as possibly, or within two business days from the date the deficiency occurred, unless the PHLX has specifically granted an extension of time.[2] The proposal also provides that any long position in a cash/spot FCO carried for a customer's account shall be paid for in full, in cash, within two full business days following the date on which the customer purchased the option. If the required margin or cash payment is not paid within the specified time period, the member carrying the position for the customer shall liquidate the position promptly.

The text of the proposed rule change is available at the Office of the Secretary, PHLX, and at the Commission.

II. Self-Regulatory Organization's Statement of the Purpose of, and Statutory Basis for, the Proposed Rule Change

In its filing with the Commission, the PHLX included statements concerning the purpose of and basis for the proposed rule change and discussed any comments it received on the proposed rule change. The text of these statements may be examined at the places specified in Item IV below. The Exchange has prepared summaries, set forth in sections (A), (B), and (C) below, of the most significant aspects of such statements.

(A) Self-Regulatory Organization's Statement of the Purpose of, and Statutory Basis for, the Proposed Rule Change

The PHLX proposes to amend PHLX Rule 722(c)(2)(B) and (c)(6) to provide for the calculation of margin requirements for cash/spot FCOs and to establish time frames for both the payment of long option positions and for the deposit of initial or maintenance margin.

Currently, under PHLX Rule 722(c)(6), a customer is given up to seven business days to either pay for long FCO positions or to deposit initial or maintenance margin on short FCO positions. The PHLX believes that for cash/spot FCOs this time frame should be reduced due to the unique nature of the product, namely its one- and two-week expiration cycles. Without the proposed reduction in the time, the PHLX believes that it could become commonplace for the cash/spot FCO to expire before the customer is required under Exchange rules to either post margin or to pay for the option purchase. Accordingly, the PHLX proposes to amend its rules to require

[1] *See* File No. SR–PHLX–93–10.

[2] *See* Letter from Diane Anderson, Assistant Vice President, PHLX, and Murray L. Ross, Secretary, PHLX, to Richard Zack, Branch Chief, Options Regulation, Division of Market Regulation ("Division"), Commission, dated June 17, 1993.

that customers must pay for cash/spot FCO purchases or post margin for short cash/spot FCO positions within two business days of the transaction. The PHLX notes that a broker-dealer would be able to request an extension of this time frame under PHLX Rule 722(c)(6)(v) if the Exchange believes that the broker-dealer is acting in good faith.[3]

The PHLX states that its determination of the initial and maintenance margin requirement for the cash/spot FCO contract was made consistent with the uniform margin methodology approved by the Commission in 1985.[4] The uniform margin methodology established in the Margin Approval Order provides margin requirements for short option positions equal to 100% of the current option premium value, plus a fixed percentage of the underlying product value, with an adjustment for out-of-the-money options and a minimum charge of not less than 100% of the current premium, plus a fixed lesser percentage of the current value of the underlying product. As noted in the Margin Approval Order, the margin requirements were developed by relating margin to the annualized price volatility of the underlying security. The resulting percentages were then adjusted to provide for initial margin that would cover the underlying product's historical volatility over a seven-day period with a 95% confidence level.

The PHLX notes that the seven-day standard is used because the customer is given seven days by Regulation T under the Act in which to post margin.[5]

The PHLX proposes to reduce the time frame for posting margin deposits and options premiums for cash/spot FCOs due to the short duration of the cash/spot FCOs. The PHLX notes that Section 220.1(b)(2) of Regulation T states, in part, that "[t]his part does not preclude any exchange, national securities association or creditor from imposing additional requirements or taking action for its own protection."[6] The PHLX notes that the determination of the confidence levels for cash/spot FCOs was made using a historical two-day movement in the underlying currency. In this regard, the PHLX explains that over the previous one-year period, a 2.5% margin would provide a 95.63% confidence level. Based upon this two-day time frame, the PHLX proposes to establish initial and maintenance margin levels for cash/spot FCOs equal to the option premium plus 2.5% of the market value of the underlying contract less any out-of-money amount with a minimum charge equal to the option premium plus ¾% of the market value of the underlying contract. The PHLX believes that this proposal is a prudent regulatory response justified by the unique specifications of the cash/spot FCOs.

The PHLX believes that the proposed rule change is consistent with the Act and the rules and regulations thereunder applicable to the Exchange, and, in particular, with Section 6(b)(5) under the Act, which requires, in part, that exchange rules "foster cooperation and coordination with persons engaged in regulating, clearing, settling, processing information with respect to, and facilitating transactions in securities."

(B) Self-Regulatory Organization's Statement on Burden on Competition

The PHLX does not believe that the proposed rule change will impose any burden on competition.

(C) Self-Regulatory Organization's Statement on Comments on the Proposed Rule Change Received From Members, Participants or Others

No written comments were either received or requested.

III. Date of Effectiveness of the Proposed Rule Change and Timing for Commission Action

Within 35 days of the date of publication of this notice in the Federal Register or within such longer period (i) as the Commission may designate up to 90 days of such date if it finds such longer period to be appropriate and publishes its reason for so finding or (ii) as to which the self-regulatory organization consents, the Commission will:

(a) By order approve such proposed rule change, or

(b) Institute proceedings to determine whether the proposed rule change should be disapproved.

IV. Solicitation of Comments

Interested persons are invited to submit written data, views and arguments concerning the foregoing. Persons making written submission should file six copies thereof with the Secretary, Securities and Exchange Commission, 450 Fifth Street, NW., Washington, DC 20549. Copies of the submission, all subsequent amendments, all written statements with respect to the proposed rule change that are filed with the Commission, and all written communications relating to the proposed rule change between the Commission and any person, order than those that may be withheld from the public in accordance with the provisions of 5 U.S.C. 552, will be available for inspection and copying at the Commission's Public Reference Section, 450 Fifth Street, NW., Washington, DC Copies of such filing will also be available for inspection and copying at the principal office of the above-mentioned self-regulatory organization. All submissions should refer to the file number in the caption above and should be submitted by August 25, 1993.

For the Commission, by Division of Market Regulation, pursuant to delegated authority.[7]

Margaret H. McFarland,

Deputy Secretary.

[FR Doc. 93–18507 Filed 8–3–93; 8:45 am]

BILLING CODE 8010–01–M

[Release No. 34–32680; File No. SR–CBOE–93–25]

Self-Regulatory Organizations; Filing and Immediate Effectiveness of Proposed Rule Change by the Chicago Board Options Exchange, Inc., Relating to Trading Hours for Certain Narrow-Based Index Options

July 27, 1993.

Pursuant to section 19(b)(1) of the Securities Exchange Act of 1934 ("Act"), 15 U.S.C. 78s(b)(1), notice is hereby given that on May 19, 1993, the Chicago Board Options Exchange, Inc. ("CBOE" or "Exchange") filed with the Securities and Exchange Commission ("Commission") the proposed rule change as described in Items I, II, and III below, which Items have been prepared by the CBOE. The Commission

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[3] PHLX Rule 722(c)(6)(v) states, in part, that "[i]f the Business Conduct Committee of the Exchange is satisfied that the member is acting in good faith in making the application, that the application relates to a bona fide purchase or writing transaction, as the case may be, and that exceptional circumstances warrant such action, such committee may extend the * * * time period * * * for one or more limited periods commensurate with the circumstances."

[4] *See* Securities Exchange Act Release No. 22469 (September 26, 1985), 50 FR 40633 (order approving File Nos. SR–Amex–84–29; SR–CBOE–84–27; SR–NASD–85–15; SR–NYSE–84–38; SR–PSE–84–20; SR–PHLX–84–32 and SR–PHLX–85–18] ("Margin Approval Order").

[5] *See* 12 CFR § 220.4(c)(3) (1992).

[6] The staff of the Board of Governors of the Federal Reserve System ("Board") has raised no objection to the PHLX's proposal to reduce the time for posting margin on the proposed cash/spot FCOs. *See Letter from Scott Holz, Senior Attorney, Board, to Richard Zack, Branch Chief, Options Regulation, Division, Commission, dated July 8, 1993.*

[7] 17 CFR 200.30–3(a)(12) (1992).

is publishing this notice to solicit comments on the proposed rule change from interested persons.

I. Self-Regulatory Organization's Statement of the Terms of Substance of the Proposed Rule Change

The CBOE is modifying the trading hours for options on certain narrow-based indices. The text of the proposed rule change is available at the Office of the Secretary, the CBOE, and at the Commission.

II. Self-Regulatory Organization's Statement of the Purpose of, and Statutory Basis for, the Proposed Rule Change

In its filing with the Commission, the CBOE included statements concerning the purpose of and basis for the proposed rule change and discussed any comments it received on the proposed rule change. The text of these statements may be examined at the places specified in Item IV below. The CBOE has prepared summaries, set forth in sections (A), (B), and (C) below, of the most significant aspects of such statements.

(A) Self-Regulatory Organization's Statement of the Purpose of, and the Statutory Basis for, the Proposed Rule Change

The CBOE states that the purpose of this rule change is to change the trading hours for certain narrow-based index options.[1] CBOE Rule 24.6 currently provides that the trading hours for domestic index options contracts shall be from 8:30 a.m. Chicago time to 3:15 p.m. Chicago time.[2] Trading in certain index futures contracts, including futures on the Standard & Poor's 500 Stock Index, also terminates at 3:15 p.m. Chicago time. By contrast, trading in equity options terminates at 3:10 p.m. Chicago time.

Market-makers in an option on a narrow-based index, such as the various sector (or "industry") indices that have been approved for trading on the CBOE, are exposed to undue risk during the five-minute interval between the closing of equity options at 3:10 p.m. and the closing of narrow-based index options at 3:15 p.m. Unlike market-makers in broad-based index options who can hedge their positions in the index futures market, market-makers in narrow based index options are best able to hedge their risks by taking or liquidating positions in options on the individual securities that comprise the index. Because trading in equity options terminates on the CBOE and on other option markets at 3:10 p.m. Chicago time, the Exchange believes that market-makers in narrow-based index options are exposed unnecessarily to market risk during the five-minute interval between the closings of equity options and options on narrow-based indices. The CBOE accordingly proposes to amend its Rule 24.6 to specify that trading shall cease at 3:10 p.m. Chicago time with respect to options on the specified narrow-based industry indices.

The Exchange believes that the proposed rule change is consistent with section 6(b) of the Act, in general, and furthers the objectives of section 6(b)(5) in particular, in that it will permit trading in certain index options to take place on the Exchange pursuant to rules designed to prevent fraudulent and manipulative acts and practices and to promote just and equitable principles of trade.

(B) Self-Regulatory Organization's Statement on Burden on Competition

The CBOE does not believe that the proposed rule change will impose any inappropriate burden on competition.

(C) Self-Regulatory Organization's Statement on Comments on the Proposed Rule Change Received From Members, Participants or Others

No written comments were solicited or received with respect to the proposed rule change.

III. Date of Effectiveness of the Proposed Rule Change and Timing for Commission Action

The foregoing rule change has become effective pursuant to section 19(b)(3)(A) of the Act and subparagraph (e) of Rule 19b–4 thereunder. At any time within sixty days of the filing of the proposed rule change, the Commission may summarily abrogate such rule change if it appears to the Commission that such action is necessary or appropriate in the public interest, for the protection of investors, or otherwise in furtherance of the purposes of the Act.

IV. Solicitation of Comments

Interested persons are invited to submit written data, views and arguments concerning the foregoing. Persons making written submissions should file six copies thereof with the Secretary, Securities and Exchange Commission, 450 Fifth Street, NW., Washington, DC 20549. Copies of the submission, all subsequent amendments, all written statements with respect to the proposed rule change that are filed with the Commission, and all written communications relating to the proposed rule change between the Commission and any person, other than those that may be withheld from the public in accordance with the provisions of 5 U.S.C. 552, will be available for inspection and copying in the Commission's Public Reference Section, 450 Fifth Street, NW., Washington, DC. Copies of such filing will also be available for inspection and copying at the principal office of the CBOE. All submissions should refer to File No. SR–CBOE–93–25 and should be submitted by August 25, 1993.

For the Commission, by the Division of Market Regulation, pursuant to delegated authority.[3]

Margaret H. McFarland,

Deputy Secretary.

[FR Doc. 93–18511 Filed 8–3–93; 8:45 am]

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[1] The trading hours change will affect all index options trading on the following indices: S&P Transportation Index; S&P Retail Index; S&P Health Care Index; S&P Banking Index; S&P Insurance Index; S&P Chemical Index; CBOE Software Index; and CBOE Environmental Index.

[2] The trading hours for options on foreign indices are determined on a case-by-case basis by a designee of CBOE's Board of Directors, with the additional requirement that the CBOE must submit a rule filing proposal to the Commission pursuant to Rule 19(b)(30(A) of the Act reflecting any alteration of the trading hours from the CBOE's normal trading hours of 8:30 a.m. to 3:15 p.m. Chicago time. See Letter from Kenneth M. Rosenzweig, Schiff, Hardin & Waite to Richard L. Zack, SEC, Branch Chief, dated June 1, 1993.

[3] 17 CFR 200.30–3(a)(12) (1993).

[Release No. 34–32685; International Series Release No. 567; File No. SR–PHLX–93–10]

Self-Regulatory Organizations; Filing of Proposed Rule Change by the Philadelphia Stock Exchange, Inc., Relating to the Listing of Cash/Spot Foreign Currency Option Contracts

July 28, 1993.

Pursuant to section 19(b)(1) of the Securities Exchange Act of 1934 ("Act"), 15 U.S.C. 78s(b)(1), notice is hereby given that on March 12, 1993, the Philadelphia Stock Exchange, Inc. ("PHLX" or "Exchange") filed with the Securities and Exchange Commission ("SEC" or "Commission") the proposed rule change as described in Items I, II, and III below, which Items have been prepared by the self-regulatory organization.[1] The Commission is

[1] The PHLX amended its filing on June 1, 1993 ("Amendment No. 1"), by letter dated July 7, 1993, and on July 16, 1993. See Letter from Murray L. Ross, Secretary, PHLX, to Richard L. Zack, Branch Chief, Options Regulation, Division of Market Regulation ("Division"), Commission, dated July 7, 1993 ("July 7 Letter"); and Letter from Murray L.

Continued

publishing this notice to solicit comments on the proposed rule change from interested persons.

I. Self-Regulatory Organization's Statement of the Terms of Substance of the Proposed Rule Change

The PHLX proposes to amend its rules to allow the Exchange to list cash-settled European-style cash/spot foreign currency option contracts ("cash/spot FCOs"). The proposed contracts will be issued by the Options Clearing Corporation ("OCC") and will trade, initially, in one-week and two-week expirations, with new series listed each Sunday at 6:00 p.m. Eastern Standard Time ("EST") or 7 p.m. Eastern Daylight Time ("EDT"). The expiring cash/spot FCO will cease trading at 10:30 a.m. and expire at 11:59 p.m. on its expiration Monday. The closing settlement value of the proposed contracts, which will be disseminated through the Options Price Reporting Authority ("OPRA"), will be determined by a designated agent(s) of the Exchange under proposed PHLX Rule 1057, "Cash/Spot Foreign Currency Option Closing Settlement Value," which provides, in part, that:

> The Exchange shall contract with a market information vendor(s) which shall act as the Exchange's designated agent(s) to generate the closing settlement value utilizing the following methodology sanctioned by the Exchange as described below.
>
> The closing settlement price shall be determined by the Exchange's designated agent(s) as follows: On every expiration date for cash/spot contracts, at 10:30 a.m. (EST or EDT), the Exchange's designated agent(s) shall collect a bid and offer quotation for the current foreign exchange spot/price from at least fifteen (15) interbank foreign exchange participants, randomly selected from a list of twenty-five (25) active interbank foreign exchange market participants. After discarding the five (5) highest offers and five (5) lowest bids, the Exchange's designated agent(s) will arithmetically average the remaining ten (10) bids and ten (10) offers to arrive at a closing settlement value.

The proposed cash/spot FCOs will be cash-settled, meaning that U.S. dollars representing the differential between the exercise strike price and the closing settlement value will be delivered by OCC. Initially, the PHLX proposes to list and trade German mark ("DM") cash/spot FCOs, which will have the same contract size as the PHLX's current U.S. dollar/DM based options (62,500 German marks) and will trade in one-week and two-week expirations.[2]

The text of the proposed rule change is available at the Office of the Secretary, PHLX, and at the Commission.

II. Self-Regulatory Organization's Statement of the Purpose of, and Statutory Basis for, the Proposed Rule Change

In its filing with the Commission, the self-regulatory organization included statements concerning the purpose of and basis for the proposed rule change and discussed any comments it received on the proposed rule change. The text of these statements may be examined at the places specified in Item IV below. The self-regulatory organization has prepared summaries, set forth in sections (A), (B), and (C) below, of the most significant aspects of such statements.

(A) Self-Regulatory Organization's Statement of the Purpose of, and Statutory Basis for, the Proposed Rule Change

Since 1982, the PHLX has traded FCOs with expirations in the March, June, September, December expiration cycle; since October 1985, the PHLX has traded FCOs with six expirations of up to one year in length with two consecutive month and four cycle month expirations.[3] In 1992, the Exchange amended PHLX Rule 1012(a)(ii) to provide for the listing of loner term FCOs, which are traded on a cycle month expiration basis for up to 36 months from the date of issuance.[4]

More recently, the PHLX introduced three additional short-term, month-end expirations for PHLX-listed FCOs.[5] The month-end expiration feature provides expirations which are approximately two weeks apart from other FCO expirations in the two nearest consecutive month expirations and the first cycle month expiration. The PHLX states that during the brief period since month-end FCOs have been trading, this product has been successful, with open interest building and volume averaging 7,000 contracts daily.

The PHLX now proposes to list and trade cash/spot FOCs. The Exchange believes hat this product, with the proposed amendments to PHLX options rules, is responsive to the continuing needs of market participants, particularly portfolio managers and other institutional currency market participants. The PHLX believes that the proposed cash/spot FOCs should provide protection from short-term market movements while offering an alternative to hedging currency portfolios with short duration futures, forward contracts, or off-exchange customized derivative instruments.

The PHLX notes that FCOs provide a strategic investment tool for sophisticated retail options customers, multi-national corporations, and proprietary traders who manage and hedge foreign currency exposure. Additionally, banking institutions trade short-term FOCs to hedge the risks of trading in the foreign currency forward and cash markets.

Responding to the demands of sophisticated foreign currency market participants, the PHLX recognizes that international financial markets are increasingly focusing on shorter term foreign currency options instruments. The PHLX notes that short term FCOs are not a new financial instrument, as an active over-the-counter ("OTC") market exists in such instruments in this country and worldwide. In order to remain competitive, the PHLX seeks to address this active market by listing the proposed cash/spot FCOs.

Accordingly, the PHLX seeks to extend the benefits and regulatory protection of a listed currency options market to short term contracts. These market attributes include, but are not limited to, a liquid auction market with transparency, such as real-time market quotations and transaction reporting, standardized contract specifications, parameters and procedures for clearance and settlement, and the contra party guarantee of the OCC.

Initially, the Exchange proposes to list and trade DM weekly cash/spot FOCs. The proposed contracts are European-style options with the same contract size as the PHLX's current U.S. dollar/DM based options, which is 62,500 German marks. The PHLX plans to designate a three-letter contract symbol, with the third letter presenting each expiration week of the month.[6] The PHLX proposes to list at least three exercise strike prices for each cash/spot FCO, including one at-the-money, one in-the-money, and one out-of-the-money strike

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Ross, Secretary, PHLX, to Richard L. Zack, Branch Chief, Options Regulation, Division, Commission, dated July 15, 1993 ("Amendment No. 2").

[2] The Commission notes that if the PHLX plans to list cash/spot FCOs based on other foreign currencies, the Exchange must submit a filing pursuant to section 19(b)(1) of the Act for Commission approval.

[3] See Securities Exchange Act Release No. 22478 (October 6, 1985), 50 FR 41277 (order approving File No. SR–PHLX–85–26).

[4] See Securities Exchange Act Release No. 29804 (October 11, 1991), 56 FR 52305 (order approving File No. SR–PHLX–91–30).

[5] See Securities Exchange Act Release No. 30945 (July 27, 1992), 57 FR 33307 (order approving File No. SR–PHLX–92–13).

[6] The PHLX plans to reserve five symbols, with the first two letters, XD, representing the DM cash/spot contract and the third letter representing the week of the month that the contract expires. Thus, the symbol XDA would represent weekly cash/spot German market contracts expiring on the first Monday of the month, and XDB would represent an expiration on the second Monday of the month.

price. These strike prices will be listed at half-cent intervals.[7]

In contrast to the consecutive and cycle month expirations of the PHLX's current FCO products, the cash/spot FCOs will trade with one-week and two-week expirations. New series will be listed each Sunday at 6 p.m. EST (or 7 p.m., EDT)[8] and will trade during the same hours as the current PHLX traded FCOs.[9]

The expiration date for cash/spot FCOs will be each Monday, unless such Monday is an Exchange holiday. The expiring cash/spot contract will cease trading at 10:30 a.m. and expire at 11:59 p.m. on its expiration Monday.[10]

Once an expiring cash/spot FCO has ceased trading, a closing settlement value will be calculated and disseminated pursuant to the procedures set forth in proposed PHLX Rule 1057. Specifically, the PHLX's market information vendor(s) which will act as the Exchange's designated agent(s) will have compiled a list of 25 active interbank market participants.[11] On Monday mornings at 10:00 a.m. (EST), the Exchange's designated agent(s) will randomly select fifteen interbank market participants from the aforementioned list. The designated agent(s)' program will discard the five highest offers and the five lowest bids, and average the remaining 20 bids and offers. This value will be calculated and sent to the PHLX every 30 seconds or every minute until 10:30 a.m., when the designated agent(s) will determine the final settlement value. At that time, the settlement value will be entered manually into the PHLX's systems, disseminated through OPRA and sent to the OCC for entry into the OCC clearing systems.[12]

The cash/spot FCOs will be cash-settled, meaning U.S. dollars representing the differential[13] between the exercise strike price and the closing settlement value will be delivered by the OCC. The PHLX notes that participants trading this product will not have to make the same arrangements with foreign banks that is required for physical settlement in other PHLX-traded FCOs. In addition, OCC will employ an automatic exercise feature for cash/spot FCOs.[14] This will be the first PHLX-traded FCO to utilize a feature which does not depend on any manual submission of exercise notices or the ability to opt out of exercise procedures.

The Exchange proposes that cash/spot FCOs will trade in accordance with the rules governing all PHLX FCOs. For example, cash/spot FCOs will be subject to sales practice rules and floor trading procedures. The PHLX believes that the position and exercise limits for cash/spot FCOs should not involve aggregation with other FCOs, because of the unique settlement feature of this product. Accordingly, the PHLX proposes to amend PHLX Rules 1001, "Position Limits," and 1002, "Exercise Limits," to allow a separate 100,000-contract limit for the cash/spot FCOs. Likewise, the PHLX has submitted a proposal to amend Exchange Rule 722, "Margin Accounts," to reflect separate margin requirements for the cash/spot FCOs, due to the short duration of the contracts.[15]

In order to accommodate the listing and trading of the proposed cash/spot FCOs, the PHLX proposes several amendments to Exchange rule 1001(b), "Definition," including modifications of the definition of "exercise strike price," which, for the proposed cash/spot FCOs, means "the stated price per unit which determines the cash/spot differential received"; and "expiration date," which provides that the proposed cash/spot FCOs "will expire at 11:59 p.m. Eastern Time on each Monday, unless such Monday is an Exchange holiday, whereby the cash/spot FCOs shall expire at 11:59 p.m. the preceding business day." To allow for a weekly expiration cycle, the PHLX proposes to amend PHLX Rule 1012, "Series of Options Open for Trading," to provide that for each class of cash/spot FCOs, series of options having up to three consecutive expirations may be opened for trading simultaneously. In addition, the PHLX proposes to amend PHLX Rule 1014, "Obligations and Restrictions Applicable to Specialists and Registered Options Traders," to provide that bid/ask differentials for cash/spot FCOs shall be determined by reference to the underlying foreign currency. For example, the DM cash/spot contract would be subject to the bid/ask differential for DM options.

The PHLX also proposes to amend PHLX Rule 1033, "Bids and Offers—Premium," to provide that bids and offers for cash/spot FCOs shall be expressed in terms of dollars per unit of the underlying foreign currency. Finally, the PHLX proposes to amend Exchange Rule 1034, "Minimum Fractional Changes," to include cash/spot FCOs.

The PHLX believes that the proposed rule change is consistent with the requirements of the Act and the rules and regulations thereunder applicable to the PHLX because the proposal is designed to provide investors with additional means to hedge foreign currency portfolios from short-term market risk, thereby facilitating transactions in FCOs and contributing to the protection of investors and the maintenance of fair and orderly markets. Further, the PHLX maintains that the proposed cash/spot FCOs will provide market participants with an alternative to hedging their risks with off-exchange customized options or forward contracts. The PHLX notes that market participants trading short-term FCOs in the OTC market have expressed a need for such a product.

For the above reasons, the PHLX believes that the proposal is also consistent with section 6(b)(5) of the Act in that it is designed to promote just and equitable principles of trade and to protect the investing public.

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[7] The PHLX has represented that the Exchange's automated trading systems as well as those of OPRA have sufficient capacity to adequately process quotations and trades in the proposed cash/spot FCOs. See Letter from Murray L. Ross, Secretary, PHLX, to Richard Zack, Branch Chief, Options Regulation, Division of Market Regulation ("Division"), Commission and Eugene Lopez, Assistant Director, Automation and International Markets, Office of Self-Regulatory Oversight and Market Structure, Division, Commission, dated April 28, 1993.

[8] Accordingly, from 6 p.m. on Sunday until 10:30 a.m. on expiration Monday, there will be three cash/spot FCOs trading: A newly listed two-week contract, a one-week contract, and one expiring that day at 10:30 a.m.

[9] FCOs currently trade Sunday through Thursday 6 p.m.–10 p.m. EST (7 p.m.–11 p.m. EDT) and Sunday through Friday 11:30 p.m.–2:30 p.m. EST (Monday–Friday 12:30 a.m.–2:30 p.m. EDT), pursuant to Exchange Rule 101. Trading hours for Canadian dollar, French franc and European Currency Unit ("ECU") options are 3:30 a.m.–2:30 p.m. EST/EDT.

[10] The following holidays are currently observed by the Exchange: New Years Day, President's Day, Good Friday, Memorial Day, Independence Day, Labor Day, Thanksgiving and Christmas. In the event any of these days falls on a Monday, the expiration date for the affected cash/spot contract will be the preceding business day (i.e., Friday), and, accordingly, the expiring cash/spot FCO will cease trading at 10:30 a.m. on that day. In addition, a new two-week contract will be listed on the following Tuesday at 3 a.m. EST as opposed to the normal Sunday evening listing when Monday is an Exchange holiday.

[11] The interbank market participants will be selected by evaluating the number of times each contributor supplies DM spot quotes to the market information vendor(s) on Monday mornings between 10 a.m. and 10:30 a.m. The pool of quote contributors will be reviewed every six months based on these criteria and substitutions will be made, if necessary. If at any time an interbank market participant ceases to distribute DM spot quotes or is no longer in the business of making DM markets, that entity will be replaced before the end of the six-month period. See July 7 Letter.

[12] See July 7 Letter.

[13] To determine the number of dollars to be delivered, the differential must be multiplied by the number of contracts and the contract size of the cash/spot FCO.

[14] The PHLX explains that an automatic exercise feature results in the automatic exercise of any contract which is deemed to be in-the-money. See OCC File No. SR–OCC–93–10.

[15] See File No. SR–PHLX–93–12

(B) Self-Regulatory Organization's Statement on Burden on Competition

The PHLX does not believe that the proposed rule change will impose any burden on competition.

(C) Self-Regulatory Organization's Statement on Comments on the Proposed Rule Change Received From Members, Participants or Others

No written comments were either received or requested.

III. Date of Effectiveness of the Proposed Rule Change and Timing for Commission Action

Within 35 days of the date of publication of this notice in the **Federal Register** or within such longer period (i) as the Commission may designate up to 90 days of such date if it finds such longer period to be appropriate and publishes its reason for so finding or (ii) as to which the self-regulatory organization consents, the Commission will:

(a) By order approve such proposed change, or

(b) Institute proceedings to determine whether the proposed rule change should be disapproved.

IV. Solicitation of Comments

Interested persons are invited to submit written data, views and arguments concerning the foregoing. Persons making written submissions should file six copies thereof with the Secretary, Securities and Exchange Commission, 450 Fifth Street, NW., Washington, DC 20549. Copies of the submission, all subsequent amendments, all written statements with respect to the proposed rule change that are filed with the Commission, and all written communications relating to the proposed rule change between the Commission and any person, other than those that may be withheld from the public in accordance with the provisions of 5 U.S.C. 552, will be available for inspection and copying at the Commission's Public Reference Section, 450 Fifth Street, NW., Washington, DC. Copies of such filing will also be available for inspection and copying at the principal office of the above-mentioned self-regulatory organization. All submissions should refer to the file number in the caption above and should be submitted by August 25, 1993.

For the Commission, by the Division of Market Regulation, pursuant to delegated authority.[16]

[16] 17 CFR 200.30–3(a)(12) (1993).

Margaret H. McFarland,

Deputy Secretary.

[FR Doc. 93–18508 Filed 8–3–93; 8:45 am]

BILLING CODE 8010–01–M

[Release No. 34–32688; File No. SR–Phlx–93–23]

Self-Regulatory Organizations; Filing of Proposed Rule Change by Philadelphia Stock Exchange, Inc. Amending by-Law, Article X, Authorizing the Establishment of an Audit Committee

July 28, 1993

Pursuant to section 19(b)(1) of the Securities Exchange Act of 1934 ("Act"), 15 U.S.C. 78s(b)(1), notice is hereby given that on June 1, 1993, the Philadelphia Stock Exchange, Inc. ("Phlx" or "Exchange") filed with the Securities and Exchange Commission ("Commission") the proposed rule change as described in Items I, II and III below, which Items have been prepared by the self-regulatory organization. The Commission is publishing this notice to solicit comments on the proposed rule change from interested persons.

I. Self-Regulatory Organization's Statement of the Terms of Substance of the Proposed Rule Change

The Phlx proposes to amend its By-Laws, Article X, Section 10–1(a); 10–9 (a), (b), (c); Section 10–14; and non-substantive renumbering amendments to various other By-Law provisions, authorizing the establishment of an Audit Committee as a Standing Committee of the Board of Governors ("Board").

II. Self-Regulatory Organization's Statement of the Purpose of, and Statutory Basis for, the Proposed Rule Change

In its filing with the Commission, the self-regulatory organization included statements concerning the purpose of and basis for the proposed rule change and discussed any comments it received on the proposed rule change. The text of these statements may be examined at the places specified in Item IV below. The self-regulatory organization has prepared summaries, set forth in Sections A, B, and C below, of the most significant aspects of such statements.

A. Self-Regulatory Organization's Statement of the Purpose of, and Statutory Basis for, the Proposed Rule Change

1. Purpose

Presently, only the Exchange's clearing agency subsidiaries possess audit committees pursuant to their By-Laws.[1] The Exchange's Board has determined there are corresponding benefits to extend and establish an Audit Committee to the Phlx. The proposed Audit Committee will review reports from the management, internal audit staff, and independent auditors, regarding the internal financial controls of the Exchange. The Audit Committee also will be able to take appropriate action in response to these reports.[2] The management of the Exchange has decided to retain the internal audit staff to oversee Exchange departments and operations. The proposed Exchange Audit Committee will be a new standing committee of the Phlx Board and, accordingly, a By-Law change is required.[3]

The Exchange's Audit Committee will be separate from the subsidiaries' audit committees, but will consult with the latter prior to making a recommendation to the Board respecting selection of the Exchange and its subsidiaries' independent auditors. In this regard, the By-Law provision relating to the Phlx Finance Committee, By-Law X, Section 10–14 will be amended to remove this function from the Finance Committee. The internal audit staff that presently reports exclusively to the subsidiaries' audit committees will have the additional responsibility to report to the proposed Exchange Audit Committee.

The proposed Exchange Audit Committee will be comprised of at least five members, three of whom shall be Board members. Otherwise, any "qualified person" may be appointed to the Committee so long as he/she is deemed by the Board to be able to exercise independent judgment and is not affiliated with the management of the Exchange or its subsidiaries.

2. Statutory Basis

The proposed rule change is consistent with section 6(b)(5) of the Act as it is designed to prevent fraudulent and manipulative acts and practices, to promote just and equitable principles of trade and in general, to protect investors and the public interest.

[1] See Article IV, Section 8(a), (i) of the Stock Clearing Corporation of Philadelphia By-Laws; and Article IV, Section 8(a), (i) of the Philadelphia Depository Trust Company By-Laws.

[2] Conversation between Murray L. Ross, Secretary, Phlx, and Elizabeth Cosgrove, Attorney, Commission, on July 8, 1993.

[3] The standing committees are appointed by the Chairman of the Board, subject to Board approval. See Article X, Section 10–1(b) of the Phlx By-Laws.

B. Self-Regulatory Organization's Statement on Burden on Competition

The Phlx does not believe that the proposed rule change will impose any burden on competition.

C. Self-Regulatory Organization's Statement on Comments on the Proposed Rule Change Received From Members, Participants or Others

The Board initially approved the proposed By-Law change on April 21, 1993. Thereafter, on April 26, 1993, the Exchange solicited comment from its membership through a notice of the proposed By-Law change.[4] No comments were received and after the expiration of the required 10 day period, the Board approved the proposed By-Law change on May 19, 1993.[5]

III. Date of Effectiveness of the Proposed Rule Change and Timing for Commission Action

Within 35 days of the publication of this notice in the **Federal Register** or within such other period (i) as the Commission may designate up to 90 days of such date if it finds such longer period to be appropriate and publishes its reasons for so finding or (ii) as to which the self-regulatory organization consents, the Commission will:

(A) By order approve the proposed rule change, or

(B) Institute proceedings to determine whether the proposed rule change should be disapproved.

IV. Solicitation of Comments.

Interested persons are invited to submit written data, views and arguments concerning the foregoing. Persons making written submission should file six copies thereof with the Secretary, Securities and Exchange Commission, 450 Fifth Street, NW., Washington, DC 20549. Copies of the submission, all subsequent amendments, all written statements with respect to the proposed rule change that are filed with the Commission, and all written communications relating to the proposed rule change between the Commission and any person, other than those that may be withheld from the public in accordance with the provisions of 5 U.S.C. 552, will be available for inspection and copying at the Commission's Public Reference Section, 450 Fifth Street, NW., Washington, DC 20549. Copies of such filing will also be available for inspection and copying at the principal office of the Phlx. All submissions should refer to File No. SR–Phlx–93–23 and should be submitted by August 25, 1993.

For the Commission, by the Division of Market Regulation, pursuant to delegated authority.

Margaret H. McFarland,

Deputy Secretary.

[FR Doc. 93–18510 Filed 8–3–93; 8:45 am]

BILLING CODE 8010–01–M

[4] Conversation between Murray L. Ross, Secretary, Phlx and Elizabeth Cosgrove, Attorney, Commission, on July 8, 1993.

[5] Article XXII, Section 22–2 of the Phlx By-Laws provides that any amendment to the By-Laws originating with the Board shall be proposed at a regular or special meeting of the Board. If twelve members of the Board approve the amendment, it shall be noticed to the members of the Exchange. After the expiration of the ten day notification period, the Board can consider the proposed amendment at any regular or special meeting and if the proposed amendment is adopted by a vote of 15 Board members, the amendment is considered part of the By-Laws, pending Commission approval.

[Investment Company Act Rel. No. 19601; International Series Rel. No. 566; 812–8468]

The Brazilian Equity Fund, Inc., et al.; Application for Exemption

July 28, 1993

AGENCY: Securities and Exchange Commission ("SEC").

ACTION: Notice of application for exemption under the Investment Company Act of 1940 ("Act").

APPLICANTS: The Brazilian Equity Fund, Inc., The Latin America Equity Fund, Inc., and The Latin America Investment Fund, Inc., on their own behalf, and on behalf of U.S. registered investment funds formed in the future for which BEA Associates serves as an investment adviser and that have a Brazilian investment adviser (the "Funds"); and BEA Associates ("BEA").

RELEVANT ACT SECTION: Order requested under section 10(f) exempting the Funds from that section.

SUMMARY OF APPLICATION: Applicants seek a conditional order under section 10(f) that would permit the Funds to purchase securities of Brazilian issuers in underwritten public offerings in the Federative Republic of Brazil during the existence of an underwriting syndicate in which the Funds' sub-adviser, or an affiliated person thereof, is a principal underwriter.

FILING DATE: The application was filed on June 22, 1993, and amended on July 23, 1993.

HEARING OR NOTIFICATION OF HEARING: An order granting the application will be issued unless the SEC orders a hearing. Interested persons may request a hearing by writing to the SEC's Secretary and serving applicants with a copy of the request, personally or by mail. Hearing requests should be received by the SEC by 5:30 p.m. on August 23, 1993, and should be accompanied by proof of service on applicants, in the form of an affidavit or, for lawyers, a certificate of service. Hearing requests should state the nature of the writer's interest, the reason for the request, and the issues contested. Persons who wish to be notified of a hearing may request such notification by writing to the SEC's Secretary.

ADDRESSES: Secretary, SEC, 450 Fifth Street, NW., Washington, DC 20549. Applicants, One Citicorp Center, 58th Floor, 153 East 53rd Street, New York, New York 10022–4669.

FOR FURTHER INFORMATION CONTACT: James E. Anderson, Staff Attorney, at (202) 272–7027, or C. David Messman, Branch Chief, at (202) 272–3018 (Division of Investment Management, Office of Investment Company Regulation).

SUPPLEMENTARY INFORMATION: The following is a summary of the application. The complete application may be obtained for a fee from the SEC's Public Reference Branch.

Applicants' Representations

1. The Funds are non-diversified, closed-end management investment companies organized as Maryland corporations. Each Fund invests a portion of its assets in securities of Brazilian issuers. At December 31, 1992, The Brazilian Equity Fund, Inc.'s aggregate net assets were approximately $43,708,867, of which 91% were invested in securities of Brazilian issuers; The Latin American Equity Fund, Inc.'s aggregate net assets were approximately $86,358,903, of which 14% was invested in securities of Brazilian issuers; and The Latin America Investment Fund, Inc.'s aggregate net assets were approximately $102,259,037, of which 15% was invested in securities of Brazilian issuers.

2. BEA acts as the Funds' investment adviser. As such, BEA selects investments for the Funds and places purchase and sale orders for them and monitors the services provided by each Fund's sub-adviser. The Funds' Brazilian sub-adviser is Patrimônio Planejamento Financeiro Ltda. ("Patrimônio"). Patrimônio provides a variety of services to each Fund, under the supervision of BEA, including: (a) Furnishing advice and making recommendations regarding the purchase and sale of securities traded in Brazil; (b) providing BEA with statistical, research, and other factual

data for its use in connection with the Funds' investment programs; (c) identifying regulatory and other governmental requirements applicable to the Funds in connection with the Funds' investment activities in Brazil; (d) monitoring the execution of transactions and the settlement and clearance of the Funds' securities transactions; and (e) providing information regarding corporate actions, repatriation restrictions, currency restrictions, and other matters as may be required by the Funds or BEA from time to time. Patrimonio is also a leading Brazilian investment banking advisory firm specializing in merger and acquisition transactions, corporate finance, and asset management.

3. Garantia Administracao de Recursos S.A. ("Garantia"), together with Patrimônio, acts as a sub-adviser to The Brazilian Equity Fund, Inc. (the "Brazilian Fund"), performing sub-advisory services as describe above. Garantia is a wholly-owned subsidiary of Garantia Administracao de Investimentos Gardi S.A., which in turn is a subsidiary of Banco de Investimentos Garantia S.A. ("Banco Garantia"). Banco Garantia serves as the Brazilian Fund's Brazilian administrator pursuant to an agreement under which it provides various services, including: (a) Furnishing local management services as required under Brazilian law; (b) processing remittance or earnings, capital gains, and return of invested capital; (c) paying applicable withholding tax on remittance abroad; (d) furnishing information about the Brazilian portfolio and remittances; (e) handling the bookkeeping for the Brazilian portfolio; and (f) effecting the registration of foreign capital with the Central Bank of Brazil.

4. The Funds wish to purchase securities of Brazilian issuers in underwritten public offerings in Brazil in which Batrimônio, or an affiliated person thereof, acts as principal underwriter. The Brazilian Fund also wishes to purchase securities of Brazilian issuers in underwritten public offerings in Brazil in which Garantia, or an affiliated person thereof, acts as principal underwriter.

Applicants' Legal Analysis

1. Section 10(f) of the Act prohibits an investment company from purchasing securities from any member of an underwriting syndicate in which its investment adviser or an affiliated person of its investment adviser participates as a principal underwriter, except in accordance with rules promulgated or orders issued by the SEC. Thus, the Funds are prohibited from purchasing securities from any member of an underwriting syndicate in which Patrimônio or an affiliated person of Patrimônio is a principal underwriter. The Brazilian Fund also is prohibited from purchasing securities from any member of an underwriting syndicate in which Garantia or an affiliated person of Garantia is a principal underwriter.

2. Rule 10f–3 exempts securities purchases from section 10(f) under specified circumstances. Under paragraph (a)(1) of rule 10f–3, the securities must be part of an issue registered under the Securities Act of 1933 ("Securities Act"). The Funds invest in securities of Brazilian companies. If such securities are not offered publicly in the United States, they are not required to be registered under the Securities Act, and thus do not satisfy paragraph (a)(1) of rule 10f–3. Applicants believe that, except for the registration requirement of paragraph (a)(1), the Funds' purchases of Brazilian securities in underwritten offerings can satisfy the conditions of rule 10f–3.

3. The public offering of equity securities in Brazil generally requires prior approval from the corporate issuer's shareholders. Resolutions approving issuance and public offering usually are adopted at a general meeting of shareholders. Such resolutions must contain the terms and conditions of the offering and the underwriting, including the issue price to the public and the justification therefor, the underwriting spread, the offering procedure, and any provisions relating to preemptive rights.

4. Brazilian law requires registration of equity securities being offered to the public. The Commissao de Valores Mobiliários (the "Brazilian Securities Commission") reviews and analyzes the offering document, and may deny registration if it considers the proposed issuance to be unfeasible or otherwise not advisable. The Brazilian Securities Commission may suspend a registration and public offering if it uncovers fraud or determines that the offering is not being conducted in compliance with Brazilian securities laws.

5. Brazilian law also requires that a corporation publicize an offering of equity securities for at least two days in the applicable state official gazette and in newspapers in prescribed locations. The Brazilian Securities Commission prescribes the contents of the published announcement, which must include the number, kind, and description of the securities, the price to the public, and the offering procedure. Such information may not differ from the information in the offering document filed as part of the registration process. All publications promoting a public offering must be approved by the Brazilian Securities Commission before use, and may be used only after the Brazilian Securities Commission has granted registration of the issue.

6. Brazilian law generally provides preemptive rights to existing shareholders unless a corporation's by-laws expressly waive them. When there are preemptive rights, existing shareholders must be informed of the details of the offering by publication as described above. Existing shareholders have a minimum of 30 days in which to subscribe for the securities in proportion to their holdings. Unsubscribed shares remaining at the end of the exercise period may be offered again to shareholders for a shorter period, generally five or ten days. At the end of the period for exercising preemptive rights or priorities, the unsubscribed shares are offered to the public for subscription, by again publishing the announcement described above.

7. Applicants assert that the publication requirement ensures that a public offering will be truly public. Further, applicants believe that the publication requirement, together with the general existence of preemptive rights, facilitates offerings to a wide group of offerees. There is only one public offering price for all offerees, including existing shareholders who may be affiliates of the issuing company, and the terms of the offering remain the same for all offerees throughout the offering.

8. The public offering of securities in Brazil can be made through a single intermediary or a consortium of intermediaries formed for the purpose of underwriting the issue. Applicants believe that most public offerings in Brazil are made through consortia of selling groups with designated representatives or lead underwriters. Such consortia must be governed by a contract or contracts that contain the conditions and limits for each participating institution and grant powers of representation by the consortium members to the leader or leaders of the distribution. The Brazilian Securities Commission has prescribed certain terms and provisions that all underwriting and distribution contracts must contain at a minimum. In the case of a firm commitment underwriting, any and all shares that are not subscribed by the public or existing shareholders by the end of the subscription period will be subscribed by the members of the underwriting consortium in the proportion established by the consortium agreement. As contemplated in clause (3) of paragraph (a) of rule 10f–

3, applicants are seeking relief only to the extent necessary to purchase securities that are the subject of an agreement or agreements (including any relating to assumption of market risk) under which the underwriters are committed to purchase all of the securities covered by such agreements, except those purchased by others pursuant to a rights offering, if the underwriters purchase any thereof.

Applicant's Conditions

Applicants agree that any order granting them an exemption from section 10(f) so that they may purchase securities of Brazilian issuers in underwritten offerings in Brazil in which Patrimônio, or any affiliated persons thereof, participate as a principal underwriter, and so that the Brazilian Fund also may purchase securities of Brazilian issuers in underwritten offerings in Brazil in which Garantia, or any affiliated persons thereof, participate as a principal underwriter, will be subject to the following conditions:

1. With the exception of paragraph (a)(1) of rule 19f–3, all other conditions set forth in rule 10f–3 will be satisfied.

2. Any securities purchased in Brazil under circumstances subject to section 10(f) of the Act will be purchased in a public offering conducted in accordance with the laws of Brazil.

3. The Funds will only participate in Brazilian public offerings where section 19(f) applies if the securities are to be listed on a Brazilian stock exchange.

4. All issuers whose securities are purchased in Brazil under circumstances subject to section 10(f) will have made available to the Funds financial statements, audited in accordance with the standards of Brazil, for the two years prior to the purchase.

For the SEC, by the Division of Investment Management, under delegated authority.

Margaret H. McFarland,

Deputy Secretary.

[FR Doc. 93–18509 Filed 8–3–93; 8:45 am]

BILLING CODE 8010-01-M

[Release No. 34–32692; File No. SR–Phlx–93–24]

Self-Regulatory Organizations; Notice of Filing of Proposed Rule Change by the Philadelphia Stock Exchange, Inc. Relating to the Adoption of a Registration Requirement and Fee for Registered Representatives.

July 29, 1993.

Pursuant to section 19(b)(1) of the Securities Exchange Act of 1934 ("Act"),[1] and Rule 19b–4 thereunder,[2] notice is hereby given that on June 8, 1993, the Philadelphia Stock Exchange, Inc. ("Phlx" or "Exchange") filed with the Securities and Exchange Commission ("Commission" or "SEC") the proposed rule change as described in Items I, II and III below, which Items have been prepared by the self-regulatory organization. On June 21, 1993, the Phlx submitted Amendment No. 1 to the proposed rule change in order to clarify the qualification standard for Registered Representatives.[3] On July 7, 1993, the Phlx submitted Amendment No. 2 to the proposed rule change to retitle Phlx Rule 604.[4] On July 27, 1993, the Phlx submitted Amendment No. 3 to the proposed rule change to clarify that the rule's qualification standard would be satisfied by an equivalent predecessor of the Series 7 examination/registration.[5] The Commission is publishing this notice to solicit comments on the proposed rule change from interested persons.

I. Self-Regulatory Organization's Statement of the Terms of Substance of the Proposed Rule Change

The Phlx proposes to adopt a new registration rule and implement a corresponding registration fee for qualified Registered Representatives ("RR").[6] Specifically, Phlx Rule 604 would be retitled "Registration and Termination of Registered Representatives" and would require RRs to register in the form prescribed by the Exchange. Proposed rule 604(a)(i) states that designating "PHLX" registration in section 10 of Form U–4, Uniform Application for Securities Industry Registration or Transfer, satisfies this registration requirement. Proposed rule 604(a)(ii) requires that such registrants maintain an effective Series 7 registration or an equivalent predecessor of this examination/registration.[7]

The registration fee will be payable by member organizations to apply for, maintain and transfer RR registrations. Specifically, the Exchange will adopt an $8.00 fee for all new RR registrants. Each year thereafter, an $8.00 maintenance fee will be imposed on each RR. In addition, there will be an $8.00 fee for transfers of RR registrations.

The text of the proposed rule change is available at the Office of the Secretary, Phlx, and at the Commission.

II. Self-Regulatory Organization's Statement of the Purpose of, and Statutory Basis for, the Proposed Rule Change

In its filing with the Commission, the self-regulatory organization included statements concerning the purpose of and basis for the proposed rule change and discussed any comments it received on the proposed rule change. The text of these statements may be examined at the places specified in Item IV below. The self-regulatory organization has prepared summaries, set forth in sections A, B, and C below, of the most significant aspects of such statements.

A. Self-Regulatory Organization's Statement of the Purpose of, and Statutory Basis for, the Proposed Rule Change

1. Purpose

The Phlx is proposing to adopt a new registration requirement similar to those of other exchanges. Proposed rule 604 would contain a registration requirement for RRs, as well as a basic qualification standard. The purpose of this requirement is to permit the Exchange to better monitor RRs for compliance with Exchange rules, as well as to expressly establish as qualification standard.

The Phlx also proposes to adopt an $8.00 fee for the new registration of RRs with the Exchange and for the maintenance and transfer of such RR registration. This fee is intended to offset Exchange regulatory costs in a manner which contemplates the number of such registrations maintained by member organizations. The cost associated with maintenance of a fair and orderly market in Exchange products has increased in recent years due to increased trade volume and the resultant need to adopt automation capabilities for the surveillance of an increasingly sophisticated trading environment. In addition to overall

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[1] 15 U.S.C. 78s(b)(1) (1988).

[2] 17 CFR 240.19b–4 (1991).

[3] See letter from Gerald D. O'Connell, Vice President, Market Surveillance, Phlx, to Diana Luka-Hopson, Branch Chief, Division of Market Regulation, SEC, dated June 15, 1993 ("Amendment No. 1").

[4] See letter from Edith Hallahan, Attorney, Market Surveillance, Phlx, to Beth Stekler, Attorney, Division of Market Regulation, SEC, dated June 23, 1993 ("Amendment No. 2")

[5] See letter from Edith Hallahan, Attorney, Market Surveillance, Phlx, to Diana Luka-Hopson, Branch Chief, Division of Market Regulation, SEC, dated July 27, 1993 ("Amendment No. 3").

[6] The Commission notes that Rule 604(a)(ii) would define a qualified RR as a person who maintains an effective Series 7 "Full Registration/General Securities Representative" registration or an equivalent predecessor of that examination/registration. See Amendment No. 3, *supra*, note 5. Only RRs associated with Phlx members who meet this qualification standard would be required to register with the Phlx and to pay registration fees.

[7] See Amendment No. 3, *supra*, note 5.

trading volume, the cost of regulating Exchange activities has risen in correlation to an increase in the number of listed products traded by the Exchange as "primary issues.[8]

Over the past five years, the Exchange has conducted over 1,000 surveillance investigations into trading activities on the Exchange. From these investigations, the Exchange has initiated approximately 120 "final" disciplinary actions[9] and 679 "minor" disciplinary actions.[10] A strong regulatory program is essential to an exchange's ability to maintain a fair and orderly market for the investment community.

2. Statutory Basis

The proposed rule change is consistent with section 6(b) of the Act and, in particular, with section 6(b)(5) in that the registration rule is designed to protect investors and the public interest, as well as to promote just and equitable principles of trade. The proposed registration fee is consistent with section 6(b)(4) in that it provides for the equitable allocation of reasonable dues, fees or charges among the Exchange's members and issuers and other persons using its facilities. The Exchange notes that the fee is similar to a registration requirement and fee imposed by the Pacific Stock Exchange.[11] Registration fees are also imposed by the American Stock Exchange, Chicago Board Options Exchange, New York Stock Exchange and the National Association of Securities Dealers.

B. Self-Regulatory Organization's Statement on Burden on Competition

The Phlx does not believe that the proposed rule change will impose any inappropriate burden on competition.

C. Self-Regulatory Organization's Statement on Comments on the Proposed Rule Change Received From Members, Participants or Others

No written comments were either solicited or received.

[8] Phlx primary issues include 218 equity options, 114 stocks and bonds, 18 currency options and 5 index options.

[9] See Phlx Rule 960.

[10] See Phlx Rule 970 and the Floor Procedure Advices adopted pursuant to that rule.

[11] Securities Exchange Act Release Nos. 29954 (November 18, 1991), 56 FR 58315 (November 25, 1991) (Notice of Filing and Immediate Effectiveness of File NO. SR–PSE–91–37); and 31425 (November 9, 1992), 57 FR 54271 (November 17, 1992) (Notice of Filing and Immediate Effectiveness of File No. SR–PSE–92–31).

III. Date of Effectiveness of the Proposed Rule Change and Timing for Commission Action

Within 35 days of the publication of this notice in the **Federal Register** or within such other period (i) as the Commission may designate up to 90 days of such date if it finds such longer period to be appropriate and publishes its reasons for so finding or (ii) as to which the self-regulatory organization consents, the Commission will:

(A) By order approve the proposed rule change, or

(B) Institute proceedings to determine whether the proposed rule change should be disapproved.

IV. Solicitation of Comments

Interested persons are invited to submit written data, views and arguments concerning the foregoing. Persons making written submissions should file six copies thereof with the Secretary, Securities and Exchange Commission 450 Fifth Street, NW., Wahsington, DC 20549. Copies of the submission, all subsequent amendments, all written statements with respect to the proposed rule change that are filed with the Commission, and all written communications relating to the proposed rule change between the Commission and any person, other than those that may be withheld from the public in accordance with the provisions of 5 U.S.C. 552, will be available for inspection and copying at the Commission's Public Reference Section, 450 Fifth Street, NW., Washington, DC 20549. Copies of such filing will also be available for inspection and copying at the principal office of the Phlx. All submissions should refer to File No. SR–Phlx–93–24 and should be submitted by August 27, 1993.

For the Commission, by the Division of Market Regulation, pursuant to delegated authority.[12]

Margaret H. McFarland,

Deputy Secretary.

[FR Doc. 93–18602 Filed 8–3 –93; 8:45 am]

BILLING CODE 8010–01–M

[12] 17 CFR 200.30–3(a)(12) (1991).

Self-Regulatory Organizations; Applications for Unlisted Trading Privileges; Notice and Opportunity for Hearing; Boston Stock Exchange, Inc.

July 29, 1993.

The above named national securities exchange has filed applications with the Securities and Exchange Commission ("Commission") pursuant to section 12(f)(1)(B) of the Securities Exchange Act of 1934 and Rule 12f–1 thereunder for unlisted trading privileges in the following securities.

Continental Airlines, Inc.
Class A Common Stock, $.01 Par Value (File No. 7–10993)
Continental Airlines, Inc.
Class B Common Stock, $.01 Par Value (file No. 7–10994)
Corporate High Yield Fund
Common Stock, $.10 Par Value (File No. 7–10995)
YPF Sociedad Anonima
American Depositary Shares, $1.00 Par Value (File No. 7–10996)
Aegon, N.V.
Ordinary Shares, No Par Value (File No. 7–10997)
Tiphook, Plc
American Depositary Shares, 10 Pc (File No. 7–10998)

These securities are listed and registered on one or more other national securities exchange and are reported in the consolidated transaction reporting system.

Interested persons are invited to submit on or before August 19, 1993, written data, views and arguments concerning the above-referenced application. Persons desiring to make written comments should file three copies thereof with the Secretary of the Securities and Exchange Commission, 450 5th Street, NW., Washington, DC 20549. Following this opportunity for hearing, the Commission will approve the application if it finds, based upon all the information available to it, that the extensions of unlisted trading privileges pursuant to such applications are consistent with the maintenance of fair and orderly markets and the protection of investors.

For the Commission, by the Division of Market Regulation, pursuant to delegated authority.

Jonathan G. Katz,

Secretary.

[FR Doc. 93–18604 Filed 8–3–93; 8:45 am]

BILLING CODE 8010–01–M

Self-Regulatory Organizations; Applications for Unlisted Trading Privileges; Notice and Opportunity for Hearing; Chicago Stock Exchange, Inc.

July 29, 1993.

The above named national securities exchange has filed applications with the Securities and Exchange Commission ("Commission") pursuant to section 12(f)(1)(B) of the Securities Exchange Act of 1934 and Rule 12f–1 thereunder for unlisted trading privileges in the following securities:

Corporate High Yield Fund, Inc.

Common Stock, $.10 Par Value (File No. 7–10999)
Grancare, Inc.
Common Stock, No Par Value (File No. 7–11000)
Marriot Corporation
Dep Shares (rep. 1/1000 PF A) No Par Value (File No. 7–11001)
Morgan Stanley Emerging Markets Debt Fund
Common Stock $.01 Par Value (File No. 7–11002)
Muniassets Fund, Inc.
Common Stock, $.10 Par Value (File No. 7–11003)
Post Properties, Inc.
Common Stock, $.01 Par Value (File No. 7–11004)
China Tire Holding Limited
Common Stock, $.10 Par Value (File No. 7–11005)
Van Kampen Merritt Municipal Opportunity Trust II
Common Shares of Beneficial Interest, $.01 Par Value (File No. 7–11006)
Wang Labs
CV Class C Common Stock, $.50 Par Value (File No. 7–11007)
Southern California Water Company
Common Stock, $5.00 Par Value (File No. 7–11008)
Grupo Siemc, S.A. DE C.V.
American Depositary Shares (Each Rep. 20 shares of Series B Common Stock (File No. 7–11009)
Aztar Corp.
Common Stock, $.01 Par Value (File No. 7–11010)
Alliance World Dollar Government Fund II, Inc.
Common Stock, $.01 Par Value (File No. 7–11011)
Columbia Hospital Corp.
Common Stock, $.01 Par Value (File No. 7–11012)
Camden Property Trust
Common Shares of Beneficial Interest, $.01 Par Value (File No. 7–11013)
Massachusetts Health and Education Tax-Exempt Trust
Common Shares of Beneficial Interest, $.01 Par Value (File No. 7–11014)
Municipal Partners Fund II
Common Stock, $.001 Par Value (File No. 7–11015)
Nuveen Maryland Premium Income Municipal Fund 2
Common Shares of Beneficial Interest, $.01 Par Value (File No. 7–11016)
Norwest Corp.
Dep. Shares (Rep. ¼ CV Pfd-B) No Par Value (File No. 7–11017)
Nuveen Ohio Premium Income Municipal Fund 2
Common Shares of Beneficial Interest, $.01 Par Value (File No. 7–11018)
Nuveen Insured Premium Income Municipal Fund 2
Common Shares of Beneficial Interest, $.01 Par Value (File No. 7–11019)
Nuveen Virginia Premium Income Municipal Fund 2
Common Shares of Beneficial Interest, $.01 Par Value (File No. 7–11020)
Shanghai Petrochemical Co. Ltd.
American Dep. Shares (rep. 100 Class H Shares, RMB 1.00 Par Value (File No. 7–11021)
United Meridian Corp.
Common Stock, $.01 Par Value (File No. 7–11022)

These securities are listed and registered on one or more other national securities exchange and are reported in the consolidated transaction reporting system.

Interested persons are invited to submit on or before August 19, 1993, written data, views and arguments concerning the above-referenced application. Persons desiring to make written comment should file three copies thereof with the Secretary of the Securities and Exchange Commission, 450 Fifth Street, NW., Washington, DC 20549. Following this opportunity for hearing, the Commission will approve the application if it finds, based upon all the information available to it, that the extensions of unlisted trading privileges pursuant to such application is consistent with the maintenance of fair and orderly markets and the protection of investors.

For the Commission, by the Division of Market Regulation, pursuant to delegated authority.

Jonathan G. Katz,

Secretary.

[FR Doc. 93–18605 Filed 8–3–93; 8:45 am]

BILLING CODE 8010–01–M

Self-Regulatory Organizations; Applications for Unlisted Trading Privileges; Notice and Opportunity for Hearing; Philadelphia Stock Exchange, Inc.

July 29, 1993.

The above named national securities exchange has filed applications with the Securities and Exchange Commission ("Commission") pursuant to section 12(f)(1)(B) of the Securities Exchange Act of 1934 and Rule 12f–1 thereunder for unlisted trading privileges in the following securities:

International Shipholding Corporation
Common Stock, $1 Par Value (File No. 7–11023)
British Telecommunications Plc
Class P First Interim American Depositary Shares each representing 10 interim ordinary share (File No. 7–11024)
Mueller Industries, Inc.
Common Stock, $0.01 Par Value (File No. 7–11025)
Texas Meridian Resources Ltd.
Common Stock, $0.01 Par Value (File No. 7–11026)
Morgan Stanley Emerging Markets Debt Fund, Inc.
Common Stock, $.01 Par Value (File No. 7–11027)
Corporate High Yield Fund, Inc.
Common Stock, $.01 Par Value (File No. 7–11028)
Muniassets Fund, Inc.
Common Stock, $.01 Par Value (File No. 7–11029)
Post Properties, Inc.
Common Stock, $0.01 Par Value (File No. 7–11030)
Reading and Bates Corporation
$1.625 Cv. Pfd Stock (File No. 7–11031)
Bear Sterns Companies, Inc.
Dep. Shares ⅛ of a Share of 7.60 Pc Cum. Pfd. Stock (File No. 7–11032)
Georgia Power Company
Adjustable Rate Class A Pfd Stock 1993 (File No. 7–11033)
Nuveen Virginia Premium Income Municipal Fund 2
Shares of Beneficial Interest, $.01 Par Value (File No. 7–11034)
Nuveen Premium Income Municipal Fund 2
Shares of Beneficial Interest, $.01 Par Value (File No. 7–11035)
Nuveen Maryland Premium Income Municipal Fund 2
Shares of Beneficial Interest, $.01 Par Value (File No. 7–11036)
Nuveen Ohio Premium Income Municipal Fund 2
Shares of Beneficial Interest, $.01 Par Value (File No. 7–11037)
Noise Com, Inc.
Common Stock, $.01 Par Value (File No. 7–11038)
Massachusetts Health and Education Tax-Exempt Trust
Common Stock, $.01 Par Value (File No. 7–11039)
AT&T Capital Corporation
Common Stock, $.01 Par Value (File No. 7–11040)
Southwestern Property Trust
Common Stock, $.01 Par Value (File No. 7–11041)
Camden Property Trust
Common Shares of Beneficial Interest, $.01 Par Value (File No. 7–11042)
Alliance Work Dollar Government Fund II
Common Stock, $.01 Par Value (File No. 7–11043)
Aztar Corporation
Common Stock, $.01 Par Value (File No. 7–11044)
Columbia Hospital Corporation
Common Stock, $.01 Par Value (File No. 7–11045)
China Tire Holding Ltd.
Common Stock, $.01 Par Value (File No. 7–11046)

These securities are listed and registered on one or more other national securities exchange and are reported in the consolidated transaction reporting system.

Interested persons are invited to submit on or before August 19, 1993, written data, views and arguments concerning the above-referenced application. Persons desiring to make written comments should file three copies thereof with the Secretary of the

Securities and Exchange Commission, 450 5th Street, NW., Washington, DC 20549. Following this opportunity for hearing, the Commission will approve the application if it finds, based upon the information available to it, that the extensions of unlisted trading privileges pursuant to such applications are consistent with the maintenance of fair and orderly markets and the protection of investors.

For the Commission, by the Division of Market Regulation, pursuant to delegated authority.

Jonathan G. Katz,

Secretary.

[FR Doc. 93–18603 Filed 8–3–93; 8:45 am]

BILLING CODE 8010-01-M

[Release No. 34–32697; File No. SR–BSE–93–05]

Self-Regulatory Organizations; Boston Stock Exchange, Inc.; Order Approving Proposed Rule Change and Notice of Filing and Order Granting Accelerated Approval to Amendments No. 1, No. 2 and No. 3 to Proposed Rule Change Relating to Stop and Stop Limit Order Bans

July 29, 1993.

On June 29, 1992, the Boston Stock Exchange, Inc. ("BSE" or "Exchange") submitted to the Securities and Exchange Commission ("SEC" or "Commission"), pursuant to section 19(b)(1) of the Securities Exchange Act of 1934 ("Act")[1] and Rule 19b–4 thereunder,[2] a proposed rule change to provide for the implementation of stop and stop limit order[3] bans whenever such orders are banned in the primary market. The Exchange has amended the proposed rule change three times subsequent to its original filing. On December 2, 1992, the BSE submitted to the Commission Amendment No. 1 to the proposed rule change[4] and on February 16, 1993, the BSE submitted to the Commission Amendment No. 2 to the proposal.[5] On May 11, 1993, the BSE submitted to the Commission Amendment No. 3 to the proposed rule change.[6]

The proposed rule change was published for comment in Securities Exchange Act Release No. 34–31119 (August 28, 1992), 57 FR 40704 (September 4, 1992). No comments were received on the proposal.

The BSE propose to establish a procedure to implement stop and stop limit order bans to parallel two situations in which the primary exchange implements such bans. The first situation arises when an individual specialist requests a stop and stop limit order ban due to an unusually large accumulation of such orders. The second situation arises automatically, pursuant to NYSE Rule 80A, Limitations on Trading During Significant Market Declines, when a 12 point decline is reached in the Standard and Poor ("S&P") 500.[7]

The BSE proposes to amend its rules to adopt Chapter II, Section 35, to address stop order bans on the Exchange. Section 35 would specify that whenever the primary market for a stock admitted to dealings on the BSE institutes a stop and stop limit order ban, the BSE will also ban such orders in the stock until such time as the ban in the primary market is lifted.[8] Section 35 also would provide that whenever the NYSE institutes a stop and stop limit order ban pursuant to NYSE Rule 80A,[9] the BSE will ban stop and stop limit orders for the remainder of the trading day, except that a member or member organization would be able to enter a stop or stop limit order for 2,099 shares or less, for the account of an individual investor,[10] pursuant to instructions received directly from the individual investor.[11]

The Exchange states that the purpose of the proposed rule is to prevent the BSE from becoming a haven for stop and stop limit orders that are otherwise banned on the primary exchange.[12] The Exchanger also states that the basis under the Act for the proposed rule is Section 6(b)(5) in that the rule is designed to prevent fraudulent and manipulative acts and practices, to promote just and equitable principles of trade, to foster cooperation and coordination with persons engaged in regulating, clearing, settling, processing information with respect to, and facilitating transactions in securities, to remove impediments to and perfect the mechanism of a free and open market and a national market system, and in general, to protect investors and the public interest; and is not designed to permit unfair discrimination between customers, issuers, brokers, or dealers.

The Commission finds that the proposed rule change is consistent with the requirements of the Act and the rules and regulations thereunder applicable to a national securities exchange, and, in particular, with the requirements of sections 6(b)(5) of the

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[1] 15 U.S.C. 78s(b)(1) (1988).

[2] 17 CFR 240.19b–4 (1991).

[3] A stop order to buy becomes a market order when a transaction in the security occurs at or above the stop price after the order is represented at the specialist's post. A stop order to sell becomes a market order when a transaction in the security occurs at or below the stop price after the order is represented at the specialist's post. A stop limit order to buy becomes a limit order executable at the limit price, or at a better price, if obtainable, when a transaction in the security occurs at or above the stop price after the order is represented at the specialist's post. A stop limit order to sell becomes a limit order executable at the limit price or at a better price, if obtainable, when a transaction in the security occurs at or below the stop price after the order is represented at the specialist's post. See Chapter I, ¶2003, of the BSE Rules.

[4] See letter from Karen A. Aluise, Attorney, BSE, to Diana Luka-Hopson, Branch Chief, Commission, dated November 23, 1992. Amendment No. 1 made a minor, technical correction to the proposed rule by replacing the word "institutional" with the word "individual" in proposed Chapter II, Section 35(b).

[5] See letter from Karen A. Aluise, Attorney, BSE, to Diana Luka-Hopson, Branch Chief, Commission, dated February 10, 1993. Amendment No. 2 modified the proposal to include the BSE's proposed procedures for the implementation of stop order bans. The BSE states that, upon approval by the Commission, the procedures, along with the actual rule, will be published to the membership in a memorandum.

[6] See letter from Karen A. Aluise, Attorney, BSE, to Diana Luka-Hopson, Branch Chief, Commission, dated May 5, 1993. Amendment No. 3 made minor technical corrections to the BSE's proposed procedures for the implementation of stop order bans contained in Amendment No. 2.

[7] See Securities Exchange Act Release No. 29854 (October 24, 1991), 56 FR 55963 (October 30, 1991) (File No. SR–NYSE–91–21) (order approving NYSE Rule 80A limitations on trading after significant market movements). Rule 80A applies certain trading limitations during significant market declines. The restrictions apply when the price of the primary S & P 500 futures contract traded on the Chicago Mercantile Exchange falls 12 points below the previous day's closing value.

[8] According to the BSE's stop order ban procedures, when the primary market implements a stop order ban in an individual stock due to an unusually large accumulation of stop and stop limit orders, any stop and stop limit orders on the specialist's book at the time the ban goes into effect would be cancelled. The entry of stop and stop limit orders would be banned until the ban is lifted in the primary market and that information is disseminated on the Consolidated Tape. See Amendment No. 3, *supra* note 6.

[9] NYSE Rule 80A, among other things, restricts the entry of new stop and stop limit orders for the remainder of the trading day when the 12 point trigger value has been reached. The only allowable stop and stop limit orders under NYSE Rule 80A are individual investor orders of 2,099 shares or less when and individual has made the investment decision.

[10] Proposed section 35 defines an account of an individual investor as an account covered by section 11(a)(1)(E) of the Act. Section 11(a)(1)(E) of the Act applies to accounts of a natural person, the estate of a natural person, or a trust (other than as investment company) created by a natural person for himself or another natural person. 15 U.S.C. 78k(a)(1)(E) (1988).

[11] According to the BSE's stop order ban procedures, when the NYSE implements a stop order ban pursuant to Rule 80A, any stop and stop limit orders on the specialist's books at the time the ban goes into effect would remain eligible for execution. The entry of stop and stop limit orders (other than orders up to 2099 shares for the account of individual investors) would be banned on the BSE for the remainder of the day. See Amendment No. 3, *supra* note 6.

[12] Conversation between Karen A. Aluise, Attorney, BSE, and Elizabeth M. Cosgrove, Attorney, Commission, on July 27, 1992 clarifying the purpose of the BSE proposed rule.

Act.[13] The Commission believes that the BSE's proposal is reasonably designed to promote just and equitable principles of trade, to remove impediments to and perfect the mechanism of a free and open market and a national market system, to prevent fraudulent and manipulative acts, and, in general, to protect investors and the public interest. For these reasons and the reasons set forth below, the Commission believes that approval of the proposal is consistent with the requirements of section 6(b)(5) of the Act.

The Commission believes that it is appropriate for the BSE to ban stop and stop limit orders on the Exchange when the primary exchange institutes such a ban due to an unusually large accumulation of such orders. In a volatile market, stop orders can accumulate at various prices and, if triggered by an electing transaction,[14] the stop orders may increase price fluctuations in a particular stock. Although the NYSE has adopted procedures to address large accumulations of such orders, there is nothing in the BSE's rules to prevent the Exchange from receiving a large number of stop and stop limit orders while such orders are banned on the NYSE. Accordingly, the Commission believes that allowing the BSE to ban stop and stop limit orders, which already have been banned in the primary market, may help to reduce market volatility by preventing stop and stop limit orders from being executed on the BSE.

The Commission also believes that it is appropriate for the BSE to ban stop and stop limit orders for the remainder of the trading day, whenever the NYSE institutes a stop and stop limit order ban pursuant to NYSE Rule 80A. As noted above, the NYSE institutes stop and stop limit order bans pursuant to NYSE Rule 80A during significant market declines. The Commission recognizes that banning stop and stop limit orders in a significant market decline may help to reduce market volatility related to increased selling pressure in the security. In this regard, the BSE proposal represents a reasonable effort by the BSE to arrive at a coordinated means to address potential strain on the market that may develop as a result of stop and stop limit order bans on the NYSE. Because the proposed rule change should prevent the BSE from becoming inundated with orders that have been banned pursuant to NYSE Rule 80A, the proposal should prevent the transfer of marketplace volatility from the NYSE to the BSE. Accordingly, the Commission believes that the proposed rule should protect investors and the public interest by helping to stabilize volatility in the marketplace.

Finally, as noted above, stop and stop limit orders on the specialist's book will remain eligible for execution and thus investors who have submitted orders will not be unduly disadvantaged or effected by any subsequent ban on such orders. The Commission also believes that allowing individual investors to enter stop or stop limit orders, for 2,099 shares or less, while restricting the professional use of such orders, when the NYSE institutes a ban pursuant to Rule 80A, represents a reasonable response to the problem presented by smaller, individual investors who may not be able to monitor market conditions on a continuous basis and who desire a measure of downside protection in a rapidly moving market. In contrast, market professionals are able to monitor the market on a continuous basis and have less of a need to enter such orders in a rapidly moving market. The Commission believes that this exception to the proposed rule should protect investors and the public interest by ensuring that individual investors' stop and stop limit orders will be handled in the BSE marketplace even during periods of market volatility.[15]

The Commission finds good cause for approving proposed Amendments No. 1, No. 2 and No. 3 to the proposed rule change prior to the thirtieth day after publication of notice of filing thereof. Amendment No. 1 makes a minor, technical change to the proposed rule which clarifies the application of the rule. Amendment No. 2 adds the procedures for the implementation of stop order bans to the supplementary material of the proposed rule change and Amendment No. 3 makes minor technical corrections to the BSE's proposed procedures. Accelerated approval of the amendments will enable the BSE to effectuate the proposal in a timely manner upon approval. In addition, the BSE's proposed rule change relating to stop and stop limit order bans was published in the **Federal Register** for the full statutory period and no comments were received.[16]

Interested persons are invited to submit written data, views and arguments concerning Amendments No. 1, No. 2 and No. 3. Persons making written submissions should file six copies thereof with the Secretary, Securities and Exchange Commission, 450 Fifth Street, NW., Washington, DC 20549. Copies of the submission, all subsequent amendments, all written statements with respect to the proposed rule change that are filed with the Commission, and all written communications relating to the proposed rule change between the Commission and any person, other than those that may be withheld from the public in accordance with the provisions of 5 U.S.C. 552, will be available for inspection and copying in the Commission's Public Reference Section, 450 Fifth Street, NW., Washington, DC 20549. Copies of such filing will also be available for inspection and copying at the principal office of the BSE. All submissions should refer to SR–BSE–92–05 and should be submitted by August 25, 1993.

It is therefore ordered, pursuant to Section 19(b)(2) of the Act,[17] that the proposed rule change (SR–BSE–92–05) is approved.

For the Commission, by the Division of Market Regulation, pursuant to delegated authority.[18]

Margaret H. McFarland,

Deputy Secretary.

[FR Doc. 93–18601 Filed 8–3–93; 8:45 am]

BILLING CODE 8010-01-M

[13] 15 U.S.C. 78f(b)(5) (1988).

[14] See supra note 3.

[15] This exception to the proposal is consistent with the NYSE's exception to the restriction on stop and stop limit orders of 2,099 shares or less under Rule 80A. *See supra* note 9.

[16] See Securities Exchange Act Release No. 31119 (August 28, 1992), 57 FR 40704 (September 4, 1992).

[17] 15 U.S.C. 78s(b)(2) (1988).

[18] 17 CFR 200.30–3(a)(12) (1991).

[Release No. 34–32698; File No. SR–NYSE–93–10]

Self-Regulatory Organizations; New York Stock Exchange, Inc., Order Approving Proposed Rule Change

July 29, 1993.

In the matter of Self-Regulatory Organizations; New York Stock Exchange, Inc.; Order Approving Proposed Rule Change Relating to Interpretation to Rule 345 Establishing a New Category of Limited Registration for Floor Members, and the Content Outline for the Examination Module for Floor Members Engaged in Public Business with Professional Customers.

On February 10, 1993, the New York Stock Exchange, Inc. ("NYSE" or "Exchange") submitted to the Securities and Exchange Commission ("SEC" or "Commission"), pursuant to section 19(b)(1) of the Securities Exchange Act of 1934 ("Act")[1] and Rule 19b–4 thereunder,[2] a proposed interpretation to NYSE Rule 345 to establish a new category of limited registration for floor members engaged in public business

[1] 15 U.S.C. 78s(b)(1) (1988).

[2] 17 CFR 240.19b–4 (1991).

with professional customers[3] and to adopt the Content Outline for the Examination Module for Floor Members Engaged in Public Business with Professional Customers.[4]

Notice of the proposal appeared in the **Federal Register** on April 22, 1993.[5] No comments were received on the proposal.

I. Proposal

The Exchange proposes the adoption of a Series 7A Examination as a module of the General Securities Registered Representative Examination ("Series 7") to test the knowledge of relevant securities laws and Exchange rules required of floor members who only accept orders from professional customers, as defined in the proposal, for execution on the trading floor.[6] The NYSE also proposes to amend its Interpretation to Rule 345.15 to establish, as a new category of registration, limited registration for floor members who have successfully completed the Series 7A Examination.

Currently, members located on the Floor of the NYSE who wish to transact business with the public are required to be Series 7 qualified registered representatives.[7] The Exchange states that such public business is often limited to accepting orders directly from professional investors for execution on the trading floor.[8] The Exchange believes that the level of knowledge, skills and abilities necessary to conduct such business is less than that needed to conduct a full service business with retail customers. Consequently, the NYSE developed the Series 7A Examination to test the knowledge of relevant securities laws and Exchange rules required of members whose business is limited to accepting public orders from professional customers for execution on the trading floor. A committee of floor member representatives in conjunction with the Exchange staff developed the Content Outline for the Series 7A Examination which details the coverage of the examination module.[9]

The NYSE believes that the proposal is consistent with section 6(c)(3)(B) of the Act. The Exchange states that, pursuant to this statutory obligation, it has developed examinations that are administered to establish that Exchange floor members performing specific functions have attained specified levels of competence and knowledge.

II. Discussion

After careful review, the Commission finds that the proposed rule change is consistent with the requirements of the Act and the rules and regulations thereunder applicable to a national securities exchange, and in particular, with the requirements of sections 6(b)(5) and 6(c)(3)(B) of the Act.[10] Section 6(b)(5) requires, among other things, that the rules of an exchange be designed to promote just and equitable principles of trade, to remove impediments to and perfect the mechanism of a free and open market and a national market system, and, in general, to protect investors and the public interest. Section 6(c)(3)(B) provides that a national securities exchange may examine and verify the qualifications of an applicant to become a person associated with a member in accordance with procedures established by the rules of the exchange, and require any person associated with a member, or any class of such persons, to be registered with the exchange in accordance with procedures so established.

The Commission also believes that the proposed rule change is consistent with section 15(b)(7) of the Act[11] which stipulates that prior to effecting any transaction in, or inducing the purchase or sale of, any security, a registered broker or dealer must meet certain standards of operational capability, and that such broker or dealer (and all natural persons associated with such broker or dealer) must meet certain standards of training, experience, competence, and such other qualifications as the Commission finds necessary or appropriate in the public interest or for the protection of investors.

The Commission believes that the Series 7A examination requirement should help to ensure that only those floor members with a comprehensive knowledge of Exchange rules, as well as an understanding of the Act, will be able to conduct a public business limited to accepting orders directly from professional customers for execution on the trading floor.[12] In this regard, the Commission carefully reviewed the format and the substantive areas tested on the Series 7A examination. In reviewing the examination, the Commission focused on the comprehensiveness and the choice of specific questions and their level of difficulty. The Commission believes that the examination questions cover the appropriate subject matter and include a sufficiently broad range of topics so as to require an appropriate level of expertise by floor members who conduct a public business limited to accepting orders directly from professional customers for execution on the trading floor.[13] By ensuring this requisite level of knowledge, the NYSE can remain confident that its limited registration floor members have

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[3] The NYSE deleted "generally limited to" from Rule 345, Interpretation .02 in order to clarify that the intent of the proposed interpretation is that the Series 7(a) Examination is applicable to floor members engaged solely in a public business with professional customers. Telephone conversation between Mary Ann Furlong, Director, Rule and Interpretive Standards, NYSE and Cheryl Dunfee, Attorney, Exchange Branch, Division of Market Regulation, Commission, July 28, 1993.

[4] As part of the proposed rule change, the NYSE is also seeking approval of the examination itself. *See* letter from Donald Van Weezel, Managing Director, Regulatory Affairs, NYSE, to Diana Luka-Hopson, Branch Chief, Division of Market Regulation, Commission, dated February 26, 1993.

[5] See Securities Exchange Act Release No. 32158 (April 16, 1993), 58 FR 21617 (April 22, 1993).

[6] The proposal would define a professional customer to include: A bank, a trust company; an insurance company; an investment trust; a state or political subdivision thereof; a charitable or non-profit educational institution regulated under the laws of the United States or any state or pension or profit sharing plan subject to ERISA or of an agency of the United States, or of a state or a political subdivision thereof, or any person who has, or has under management, net tangible assets of at least sixteen million dollars.

For purposes of the definition of professional customer, the term "person" would mean the same as that term is defined in NYSE Rule 2, except that it would not include natural persons.

The Exchange states that the above definition is derived from the term "designated account" as used in NYSE Rule 431 (Margin Requirements) and interpretations thereof to describe a professional or sophisticated customer

[7] A Series 15 qualified floor member (an individual who passed the Series 15 Floor Member Examination) who today wishes to conduct business with the public would also have to pass the Series 7 Exam. Telephone conversation between Mary Ann Furlong, Director Rule and Interpretive Standards, NYSE and Cheryl Evans-Dunfee, Attorney, Exchange Branch, Division of Market Regulation, Commission, on July 15, 1993.

[8] Telephone conversation between Mary Ann Furlong, Director, Rule and Interpretive Standards, NYSE and Cheryl Evans-Dunfee, Attorney, Exchange Branch, Division of Market Regulation, Commission, on April 6, 1993.

[9] The Exchange will continue to require the successful completion of the Series 7 examination for any prospective member seeking to become a registered representative dealing with other than professional customers. In addition, any person who has successfully completed the Series 7 Examination will not be required to complete the Series 7A Examination Telephone conversation between Mary Ann Furlong, Director, Rule and Interpretive Standards, NYSE and Cheryl Evans-Dunfee, Attorney, Exchange Branch, Division of Market Regulation, Commission, on July 15, 1993.

[10] 15 U.S.C. 78f (b)(5) and (c)(3)(B) (1988).

[11] 15 U.S.C. 78o(b)(7) (1988).

[12] See *supra* note 8. The Exchange intends to send an Information Memorandum to members discussing the Series 7 and Series 7A Examinations. Telephone conversations between Mary Ann Furlong, Director, Rule and Interpretive Standards, NYSE and Cheryl Evans-Dunfee, Attorney, Exchange Branch, Division of Market Regulation, Commission, May 12, 1993, and June 21, 1993.

[13] Commission Staff reviewed both the proposed Interpretation to Rule 345 and the examination itself for form and content and concluded that both were appropriately drafted and organized.

demonstrated an acceptable level of securities knowledge to carry out their responsibilities.

The Commission also has determined that the Content Outline for the Series 7A Examination is sufficiently detailed and covers the appropriate information so as to provide an adequate basis for studying the topics covered on the examination. This outline should help to ensure that those persons taking the Series 7A fully understand the subject matter of the examination.

Finally, the Commission believes that the proposed limited registration requirement for floor members engaged in a public business with professional customers is reasonable and is consistent with the requirements of sections 6(b)(5) and 6(c)(3) (B) of the Act. This new category of registration would permit only those floor members who have demonstrated adequate skills and knowledge to conduct a public business which is generally limited to accepting orders directly from professional customers, as defined in the rule,[14] for execution on the trading floor. The NYSE has argued that the level of knowledge, skills and abilities necessary to conduct such business is less than that needed to conduct a full service business with retail customers. The Commission believes that, because the NYSE will ensure that floor members solely handling professional customer business are adequately qualified through the use of either the Series 7 or Series 7A exam,[15] it is consistent with the NYSE's regulatory responsibilities to establish this category of limited registration.

IV. Conclusion

It Is Therefore Ordered, pursuant to section 19(b) (2) of the Act,[16] that the proposed rule change (SR–NYSE–93–10) is approved.

For the Commission, by the Division of Market Regulation, pursuant to delegated authority.[17]

Margaret H. McFarland,

Deputy Secretary.

[FR Doc. 93–18600 Filed 8–3–93; 8:45 am]

BILLING CODE 8010-01-M

[14] See *supra* note 5.

[15] See *supra* note 8.

[16] 15 U.S.C. 78s(b)(2) 1988).

[17] 17 CFR 200.30–3(a)(12) 1991).

[Rel. No. IC–19603; Int'l Series Release No. 570; 813–6232]

Berliner Handels- und Frankfurter Bank, et al.; Notice of Application

July 28, 1993.

AGENCY: Securities and Exchange Commission ("SEC" or "Commission").

ACTION: Notice of Application for Exemption under the Investment Company Act of 1940 (the "Act").

APPLICANTS: Berliner Handels- und Frankfurter Bank (the "Bank") and BHF Finance (Delaware) Inc. ("Finance").

RELEVANT ACT SECTIONS: Exemption requested pursuant to section 6(c) from the provisions of subparagraphs (a)(1) and (a)(3) of rule 3a–5 under the Act.

SUMMARY OF APPLICATION: Applicants seek an amended, conditional order under section 6(c) from the provisions of subparagraphs (a)(1) and (a)(3) of rule 3a–5 to permit Finance to offer and sell an unlimited amount of its commercial paper in the United States to raise funds for the business operations of the Bank, its parent company, without registering as an investment company.

FILING DATE: The application was filed on December 30, 1992, and amended on May 20, 1993, and June 17, 1993.

HEARING OR NOTIFICATION OF HEARING: An order granting the application will be issued unless the SEC orders a hearing. Interested persons may request a hearing by writing to the SEC's Secretary and serving applicants with a copy of the request, personally or by mail. Hearing requests should be received by the SEC by 5:30 p.m. on August 23, 1993, and should be accompanied by proof of service on applicants, in the form of an affidavit or, for lawyers, a certificate of service. Hearing requests should state the nature of the writer's interest, the reason for the request, and the issues contested. Persons may request notification of a hearing by writing to the SEC's Secretary.

ADDRESSES: Secretary, SEC, 450 5th Street NW., Washington, DC 20549. Applicants: Finance, 100 West Tenth Street, Wilmington, Delaware 19801; and the Bank, Bockenheimer Landstrasse 10, 600 Frankfurt am Main 1, Federal Republic of Germany; with copy to Michael Gruson, Esq., Shearman & Sterling, 599 Lexington Avenue, New York, New York 10022.

FOR FURTHER INFORMATION CONTACT: James J. Dwyer, Staff Attorney, at (202) 504–2920, or Elizabeth G. Osterman, Branch Chief, at (202) 272–3016 (Division of Investment Management, Office of Investment Company Regulation).

SUPPLEMENTARY INFORMATION: The following is a summary of the application. The complete application may be obtained for a fee at the SEC's Public Reference Branch.

Applicants' Representations

1. Finance currently offers and sells commercial paper issued by it in the United States without having registered as an investment company under the Act pursuant to a Commission order issued in 1986.[1] The application requesting the 1986 order limits the face value of such commercial paper outstanding at any one time to $100 million. Applicants seek to amend their existing relief to permit Finance to issue an unlimited amount of its commercial paper in the United States.

2. The Bank is a commercial bank organized as a corporation under the laws of the Federal Republic of Germany ("Germany"). As of December 31, 1991, the Bank was the eighth largest privately owned commercial bank in Germany in terms of consolidated total assets, excluding mortgage banks. The bank provides, directly or through its subsidiaries, a wide range of commercial and investment banking services to businesses, governments, financial institutions, and high net worth private customers throughout Germany and internationally. The Bank has a branch in New York that is licensed and regulated by New York State banking authorities. Through the New York branch, the Bank takes deposits and extends loans, offers acceptance credit facilities, issues letters of credit, participates in syndicated loan transactions, and engages generally in commercial banking.

3. As of December 31, 1992, the Bank had total assets of approximately $17,589,770,000. Deposits with the Bank, including demand, time and savings deposits and bonds and notes, totalled approximately 90% of the Bank's total assets. The aggregate principal amount of loans extended by the Bank constituted approximately 62% of the Bank's total assets.

4. The Bank is authorized to carry on a banking business under the Gesetz ueber das Kreditwesen (the "Federal Banking Law"). The Bank is subject to extensive supervision and regulation by the Bundesaufsichtsamt fuer das Kreditwesen (the "German Federal Banking Supervisory Authority"), whose main purpose is to protect the depositors and other creditors of

[1] Investment Company Act Release Nos. 15188 (July 2, 1986) (notice) and 15230 July 29, 1986 (order).

banking institutions, and also to protect the integrity of the German banking system. The Bank is also supervised and regulated by the Deutssche Bundesbank (the "German Central Bank"), whose responsibility includes the regulation of the money and credit supply. Applicants represent that regulation by the German banking authorities is comparable in many respects to the supervision of United States commercial banks. In addition, pursuant to the International Banking Act of 1978 and the Foreign Bank Supervision Enhancement Act of 1991, the Bank is subject to supervision and regulation by the Board of Governors of the Federal Reserve System (the "Board of Governors"). Also, because the Bank has a branch in the United States, the Bank is subject to United States Federal regulation under the Bank Holding Company Act of 1956.

5. Finance is incorporated under Delaware law. All of Finance's outstanding capital stock is owned by the Bank. Finance proposes to issue and sell in the United States short-term negotiable promissory notes of the type exempt from the registration requirements of the Securities Act of 1933, as amended, by virtue of section 3(a)(3) thereof and generally referred to as commercial paper (the "Notes"), and to deposit the net proceeds from the sale thereof (the "Deposits") at the Grand Cayman branch of the Bank (the "Branch") pursuant to a deposit agreement (the "Deposit Agreement") to be entered into by Finance, the Branch, and the Bank.

6. The Notes will be sold in minimum denominations of $100,000, will have a maturity not exceeding nine months, and neither will be payable on demand prior to maturity nor eligible for any extension, renewal, or automatic "rollover" at the option of either Finance or the holders of the Notes (the "Noteholders").

7. Substantially all of Finance's assets will consist of a single evidence of indebtedness of the Branch issued to Finance evidencing the Deposits. As provided under the Deposit Agreement, the Branch unconditionally agrees to repay to Finance each Deposit made by Finance at the Branch, including accrued interest thereto, on the maturity date of the Deposit. In the Deposit Agreement, the Branch waives any and all right of set-off it may have in respect of the Deposits. Each Deposit shall mature and be payable on the maturity date of the corresponding Note, and shall bear interest at a rate per annum equal to or greater than the effective interest rate of the corresponding Note, taking into account the discount at which the Note is issued. Each Noteholder is assigned as security and granted a security interest in the Deposit and accrued interest corresponding to his Note. If Finance fails to pay a Note in accordance with its terms, the Deposit Agreement entitles the Noteholder to receive payment by the Branch of the Deposit and accrued interest.

8. Under German law and pursuant to the Deposit Agreement, the repayment obligation of the Branch in respect of the Deposits is an obligation of the bank. The Bank's obligations regarding its liabilities to Finance will rank at least *pari passu* among themselves and with all other unsecured and unsubordinated indebtedness, including deposit liabilities, of the Bank and will be superior to rights of shareholders; the Noteholders will have a direct cause of action against the Bank in the event of any default in payment on the Notes.

9. The Bank in the Deposit Agreement expressly waives any defenses available to it against performance of its obligations to the extent that such defenses exist under Caymen Islands law and are based on insolvency, moratorium, liquidation, or similar laws of the Cayman Islands affecting the Branch, or on currency or foreign exchange laws of the Caymen Islands or acts of state of the Cayman Islands government relating to expropriation, seizure, or moratorium of payment affecting the Branch as such or affecting the obligations of the Branch to repay its deposits in general.

10. To assure that the proceeds from the sale of the Notes will be deposited with the Branch, Finance and the Branch will enter into an agreement (the "Issuing and Paying Agency Agreement") with a commercial bank pursuant to which the Branch will have an operating account with such commercial bank. The payments of the proceeds of the sale of the Notes to the Branch will be made to this account, and the payments by Finance or the Branch to the Noteholders will be made from this account by appropriate debits or credits, respectively. The Issuing and Paying Agreement provides that payment by the Noteholders will be effected by wire transfer of funds to the commercial bank's account at the Federal Reserve Bank of New York or by delivery to the commercial bank of a check drawn to the commercial bank's order by another member bank of such Federal Reserve Bank. Finance is required to instruct the commercial bank to transfer the proceeds of the sale of the Notes to the Branch's account with the commercial bank. The Issuing and Paying Agreement states that the Branch will have exclusive control over the account, and the sole right of withdrawal of funds therefrom. Finance will have no opportunity to channel the investor's funds away from the investor, the commercial bank, and the Bank. Once the investor pays for the Notes, the funds are in the commercial bank's account with the Federal Reserve, and must flow from there into the Branch's account with the commercial bank as a Deposit. At that moment the investor has a right of action against the Bank pursuant to his security interest in the Deposit.

11. The Notes will be offered publicly, through one or more major dealers and/or by the Bank directly, only to the types of sophisticated and largely institutional investors that ordinarily participate in the United States commercial paper market. Each dealer or the Bank will furnish to each offeree a memorandum describing the businesses of the Bank and Finance, and providing the most recent annual audited financial statements for the Bank, together with a description of the material differences between the German accounting principles utilized in the preparation of the financial statements of the Bank and generally accepted accounting principles as applied in the United States. The memorandum will be updated as promptly as practicable to reflect material adverse changes in the financial status of Finance or the Bank which are material to investors, and will be at least as comprehensive as memoranda customarily used in offering commercial paper in the United States.

12. The Bank, in connection with the offering of the Notes, will submit to the jurisdiction of any state or Federal court in the Borough of Manhattan in the City of New York, and will appoint Finance as agent to accept any process which may be served in any action based upon the Bank's obligations to Finance as described in the application. Such consent to jurisdiction and such appointment of an authorized agent to accept service of process will be irrevocable until all amounts due and to become due with respect to the Deposits and all obligations of the Bank to Finance as described in the application have been paid. The authorized agent will not be, or be obligated to act as, a trustee for the Noteholders.

Applicants' Legal Analysis

1. Applicants assert that Finance meets the requirements of rule 3a–5 except that the Notes will not be guaranteed in a technical sense by the Bank, as required by subparagraphs (a)(3) and (a)(5). Instead, the Bank will

provide the functional equivalent of a guarantee. Applicants represent that the proceeds from the sale of Notes by Finance will be lent to or deposited with the Branch, and contend that the entitlement of the Noteholders to receive payment by the Branch of the Deposit corresponding to the Notes in case of failure of Finance to pay the Notes upon maturity will be even better for the Noteholders than the guarantee in a technical sense might be.

2. Applicants assert that, if the Bank were to issue the Notes directly, it would not be subject to the provisions of the Act pursuant to rule 3a–6. They further assert that, if the Bank chooses to use Finance as a financing vehicle, the policy considerations underlying rule 3a–6 should apply the Finance should be granted an exemption to issue its Notes. They state that the business and fiscal considerations behind the Bank's desire to use Finance as a financing vehicle to sell the Notes in the United States in no way impinge upon the public policy concerns, such as investor protection, that underlie the Act. Applicants believe that the policy concerns underlying rule 3a–6 are satisfied by the parent-subsidiary relationship between the Bank and Finance because, as a consequence thereof and as a result of the Deposit Agreement, the Noteholders may ultimately look to the Bank for satisfaction.

3. Applicants state that the Bank chose the proposed structure because, among other reasons, if the Bank or one of its branches were to have unconditionally guaranteed the obligations of Finance to pay the Notes, or to have issued a letter of credit supporting the Notes, the funding by the issuance of such Notes would be more costly for the Bank.

Applicants Conditions

Applicants agree that any order granting the requested relief shall be subject to the following conditions:

1. Finance and the Branch will enter into an Issuing and Paying Agency Agreement with a commercial bank pursuant to which the Branch will have an operating account with such commercial bank. To this account payments of the proceeds of the sale of the Notes to the Branch will be made, and from this account the payments by Finance or the Branch to the Noteholders will be made by appropriate debits or credits, respectively.

2. Finance will assign as security the Deposit corresponding to each Note to and in favor of the Noteholder. In the event Finance fails to pay a Note upon maturity, the Noteholder will be entitled to receive payment by the Branch of the Deposit corresponding to such Note. In the event of a default in payment of principal or interest (or any other payments provided for in the Notes) on any debt securities issued by Finance, the Noteholders will not only be entitled to receive payments by the Branch or the Bank of the Deposit corresponding to such Note but may also enforce such rights in the competent courts against the Branch or the Bank without first proceeding against Finance.

3. The Bank confirms expressly in the Deposit Agreement that the aforementioned obligations of the Branch to Finance and the Noteholders are the Bank's own obligations.

For the Commission, by the Division of Investment Management, pursuant to delegated authority.

Margaret H. McFarland,

Deputy Secretary.

[FR Doc. 93–18606 Filed 8–3–93; 8:45 am]

BILLING CODE 8010-01-M

SMALL BUSINESS ADMINISTRATION

[Declaration of Disaster Loan Area #2669]

Kansas; Declaration of Disaster Loan Area

As a result of the President's major disaster declaration on July 22, 1993 and amendments dated July 25, I find the counties of Dickinson, Doniphan, Douglas, Geary, Harvey, Johnson, Leavenworth, Ottawa, Riley, Saline, and Wyandotte in the State of Kansas constitute a disaster area as a result of damages caused by flooding and severe storms beginning on June 28, 1993 and continuing. Applications for loans for physical damage may be filed until the close of business on September 20, 1993, and for loans for economic injury until the close of business on April 25, 1994, at the address listed below: U.S. Small Business Administration, Disaster Area 3 Office, 4400 Amon Carter Boulevard, suite 102, Forth Worth, Texas 76155 or other locally announced locations. In addition, applications for economic injury loans from small businesses located in the following contiguous counties may be filed until the specified date at the above location: Atchison, Brown, Butler, Clay, Cloud, Ellsworth, Franklin, Jefferson, Lincoln, Marion, Marshall, McPherson, Miami, Mitchell, Morris, Osage, Pottawatomie, Reno, Sedgwick, Shawnee, Wabaunsee, and Washington in Kansas.

Any contiguous counties not listed herein are covered under a separate declaration for the same occurrence.

The interest rates are:

	Percent
For physical damage:	
Homeowners with credit available elsewhere	8.000
Homeowners without credit available elsewhere	4.000
Businesses with credit available elsewhere	8.000
Businesses and non-profit organizations without credit available elsewhere	4.000
Others (including non-profit organizations) with credit available elsewhere	7.625
For economic injury:	
Businesses and small agricultural cooperatives without credit available elsewhere	4.000

The number assigned to this disaster for physical damage is 266906 and for economic injury the number is 793500.

(Catalog of Federal Domestic Assistance Program Nos. 59002 and 59008).

Dated: July 26, 1993.

Bernard Kulik,

Assistant Administrator for Disaster Assistance.

[FR Doc. 93–18548 Filed 8–3–93; 8:45 am]

BILLING CODE 8025-01-M

Action Subject to Intergovernmental Review

AGENCY: Small Business Administration.

ACTION: Notice of action subject to intergovernmental review under Executive Order 12372.

SUMMARY: This notice provides for public awareness of SBA's intention to refund thirty-three presently existent Small Business Development Centers (SBDCs) on January 1, 1994. Currently there are 57 SBDCs operating in the SBDC program. The following SBDCs are intended to be refunded, subject to the availability of funds: Arizona, Arkansas, California, Colorado, District of Columbia, Florida, Georgia, Hawaii, Idaho, Illinois, Indiana, Kansas, Maine, Minnesota, Montana, Nebraska, Nevada, New Hampshire, New Jersey, New Mexico, North Carolina, North Dakota, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Utah, Virginia, Washington, and Wisconsin. This notice also provides a description of the SBDC program by setting forth a condensed version of the program announcement

which has been furnished to each of the SBDCs to be refunded. This publication is being made to provide the State single points of contact, designated pursuant to Executive Order 12372, and other interested State and local entities, the opportunity to comment on the proposed refunding in accordance with the Executive Order and SBA's regulations found at 13 CFR part 135.

EFFECTIVE DATE: November 2, 1993.

ADDRESSES: Comments should be addressed to Ms. Johnnie L. Albertson, Associate Administrator for SBDC Program, U.S. Small Business Administration, 409 Third Street, SW., Fifth Floor, Washington, DC 20416. (202) 205–6766.

FOR FURTHER INFORMATION CONTACT: Same as above.

SUPPLEMENTARY INFORMATION: SBA is bound by the provisions of Executive Order 12372, "Intergovernmental Review of Federal Programs." SBA has promulgated regulations spelling out its obligations under that Executive Order. See 13 CFR part 135, effective September 30, 1983.

In accordance with these regulations, specifically § 135.4, SBA is publishing this notice to provide public awareness of the pending application of thirty-three presently existent Small Business Development Centers (SBDCs) for refunding. Also, published herewith is an annotated program announcement describing the SBDC program in detail.

This notice is being published four months in advance of the expected date of refunding these SBDCs. Relevant information identifying these SBDCs and providing their mailing address is provided below. In addition to this publication, a copy of this notice is being simultaneously furnished to the affected State single point of contact which has been established under the Executive Order.

The State single points of contact and other interested State and local entities are expected to advise the relevant SBDC of their comments regarding the proposed refunding in writing as soon as possible. The SBDC proposal cannot be inconsistent with any area-wide plan providing assistance to small business, if there is one, which has been adopted by an agency recognized by the State government as authorized to do so. Copies of such written comments should also be furnished to Ms. Johnnie L. Albertson, Associate Administrator for SBDC Program, U.S. Small Business Administration, 409 Third Street, SW., Fifth Floor, Washington, DC 20416. Comments will be accepted by the relevant SBDC and SBA for a period of 120 days from the date of publication of this notice. The relevant SBDC will make every effort to accommodate these comments during the 120-day period. If the comments cannot be accommodated by the relevant SBDC, SBA will, prior to refunding the SBDC, either attain accommodation of any comments or furnish an explanation of why accommodation cannot be attained to the commentor prior to refunding the SBDC.

Description of the SBDC Program

The SBDC operates under the general management and oversight of SBA, but with recognition that a partnership exists between the Agency and the SBDC for the delivery of assistance to the small business community. SBDC services shall be provided pursuant to a negotiated Cooperative Agreement with full participation of both parties. SBDCs operate on the basis of a state plan to provide assistance within a state or designated geographical area. The initial plan must have the written approval of the Governor. As a condition to any financial award made to an applicant, non-Federal funds must be provided from sources other than the Federal Government. SBDCs operate under the provisions of Public Law 96–302, as amended by Public Law 98–395, a Notice of Award (Cooperative Agreement) issued by SBA, and the provisions of this Program Announcement.

Purpose and Scope

The SBDC Program is designed to provide quality assistance to small businesses in order to promote growth, expansion, innovation, increased productivity and management improvement. To accomplish these objectives, SBDCs link resources of the Federal, State, and local governments with the resources of the educational system and the private sector to meet the specialized and complex needs of the small business community. SBDCs also coordinate with other SBA programs of business development and utilize the expertise of these affiliated resources to expand services and avoid duplication of effort.

Program Objectives

The overall objective of the SBDC Program is to leverage Federal dollars and resources with those of the state, academic community and private sector to:

(a) Strengthen the small business community;

(b) Contribute to the economic growth of the communities served;

(c) Make assistance available to more small businesses than is now possible with present Federal resources;

(d) Create a broader based delivery system to the small business community.

SBDC Program Organization

SBDCs are organized to provide maximum services to the local small business community. The lead SBDC receives financial assistance from the SBA to operate a statewide SBDC Program. In states where more than one organization receives SBA financial assistance to operate an SBDC, each lead SBDC is responsible for Program operations throughout a specific regional area to be served by the SBDC. The lead SBDC is responsible for establishing a network of SBDC subcenters to offer service coverage to the small business community. The SBDC network is managed and directed by a full-time Director. SBDCs must ensure that at least 80 percent of Federal funds provided are used to provide services to small businesses. To the extent possible, SBDCs provide services by enlisting volunteer and other low cost resources on a statewide basis.

SBDC Services

The specific types of services to be offered are developed in coordination with the SBA district office which has jurisdiction over a given SBDC. SBDCs emphasize the provision of indepth, high-quality assistance to small business owners or prospective small business owners in complex areas that require specialized expertise. These areas may include, but are not limited to: Management, marketing, financing, accounting, strategic planning, regulation and taxation, capital formation, procurement assistance, human resource management, production, operations, economic and business data analysis, engineering, technology transfer, innovation and research, new product development, product analysis, plant layout and design, argi-business, computer application, business law information, and referral (any legal services beyond basic legal information, and referral require the endorsement of the State Bar Association,) exporting, office automation, site selection, or any other areas of assistance required to promote small business growth, expansion, and productivity within the State. The SBDC shall also ensure that a full range of business development and technical assistance services are made available to small business located in rural areas.

The degree to which SBDC resources are directed towards specific areas of

assistance is determined by local community needs, SBA priorities and SBDC Program objectives, and agreed upon by the SBA district office and the SBDC.

The SBDC must offer quality training to improve the skills and knowledge of existing and prospective small business owners. As a general guideline, SBDCs should emphasize the provision of training in specialized areas other than basic small business management subjects. SBDCs should also emphasize training designed to reach particular audiences such as members of SBA priority and special emphasis groups.

SBDC Program Requirements

The SBDC is responsible to the SBA for ensuring that all programmatic and financial requirements imposed upon them by statute or agreement are met. The SBDC must assure that quality assistance and training in management and technical areas are provided to the State small business community through the State SBDC network. As a condition of this agreement, the SBDC must perform, but not be limited to, the following activities:

(a) The SBDC ensures that services are provided as close as possible to small business population centers. This is accomplished through the establishment of SBDC subsenters.

(b) The SBDC ensures that lists of local and regional private consultants are maintained at the lead SBDC and each SBDC subcenter. The SBDC utilizes and provides compensation to qualified small business vendors such as private management consultants, private consulting engineers, and private testing laboratories.

(c) The SBDC is responsible for the development and expansion of resources within the State, particularly the development of new resources to assist small business that are not presently associated with the SBA district office.

(d) The SBDC ensures that working relationships and open communications exist within the financial and investment communities, and with legal associations, private consultants, as well as small business groups and associations to help address the needs of the small business community.

(e) The SBDC ensures that assistance is provided to SBA special emphasis groups throughout the SBDC network. This assistance shall be provided to veterans, women, exporters, the handicapped, and minorities as well as any other groups designated a priority by SBA. Services provided to special emphasis groups shall be performed as part of the Cooperative Agreement.

Advance Understandings

The lead SBDC and all SBDC subcenters shall operate on a forty (40) hour week basis, or during the normal business hours of the State or Host Organization, throughout the calendar year. The amount of time allowed the Lead SBDC and subcenters for staff vacations and holidays shall conform to the policy of the Host organization.

Dated: July 27, 1993.

Erskine B. Bowles,

Administrator.

Addresses of Relevant SBDC State Directors

Mr. Michael York, State Director, Maricopa Community College, 2411 West 14th Street, Tempe, AZ 85281–6941, (602) 731–8202

Ms. Barbara Hayes, State Director, California Trade & Comm. Agency, 801 K Street, suite 1700, Sacramento, CA 95814, (916) 322–2252

Ms. Nancy Flake, Director, Howard University, 6th & Fairmount Street, NW., Washington, D.C. 20059, (202) 806–1550

Mr. Hank Logan, State Director, University of Georgia, Chicopee Complex, Athens, GA 30602, (404) 542–5760

Mr. Ronald Hall, State Director, Boise State University, College of Business, 1910 University Drive, Boise, ID 83725, (208) 385–1640

Mr. Steve Thrash, State Director, Economic Development Council, One North Capitol, suite 420, Indianapolis, IN 46204, (317) 264–6871

Mr. Charles Davis, State Director, University of Southern Maine, 96 Falmouth Street, Portland, ME 04103, (207) 780–4420

Mr. Victor Redditt, Acting State Director, University of Arkansas, 100 South Main, suite 401, Little Rock, AR 72201, (501) 324–9043

Mr. Rick Garcia, State Director, Office of Business Development, 1625 Broadway, suite 1710, Denver, CO 80202, (303) 892–3809

Mr. Jerry Cartwright, State Director, University of West Florida, 19 West Garden Street, Pensacola, FL 32501, (904) 444–[illegible]

Ms. Janet Nye, State Director, University of Hawaii/Hilo, 523 West Lanikaula Street, Hilo, HI 96720, (808) 933–3515

Mr. Jeffrey Mitchell, State Director, Department of Commerce and Community Affairs, 620 East Adams Street, Springfield, IL 62701, (217) 524–5856

Mr. Tom Hull, State Director, Wichita State University, 1845 Fairmont, Wichita, KS 67260–0148, (316) 689–3193

Mr. Randall Olson, State Director, Dept. of Trade and Economic Dev., 150 East Kellogg Boulevard, St. Paul, MN 55101–1421, (612) 297–5770

Mr. Gene Marcille, State Director, Department of Commerce, 1424 Ninth Avenue, Helana, MT 59620, (406) 444–4780

Mr. Sam Males, State Director, University of Nevada/Reno, College of Business Admin., room 411, Reno, NV 89557–0100, (702) 784–1717

Ms. Brenda B. Hopper, State Director, Rutgers University, 180 University Street, Newark, NJ 07102, (201) 648–5950

Mr. Scott Daugherty, State Director, University of North Carolina, 4509 Creedmoor Road, suite 201, Raleigh, NC 27612, (919) 571–4154

Dr. Grady Pennington, State Director, SE Oklahoma State University, 517 West University, Durant, OK 74701, (405) 924–0277

Mr. Greg Higgins, State Director, University of Pennsylvania, The Wharton School, 444 Vance Hall, Philadelphia, PA 19104, (215) 898–1219

Mr. John Lenti, State Director, University of South Carolina, College of Business Admin., 1710 College Street, Columbia, SC 29208, (803) 777–4907

Mr. Robert Bernier, State Director, University of Nebraska/Omaha, 60th & Dodge Sts., CBA room 407, Omaha, NE 68182, (402) 554–2521

Ms. Helen Goodman, State Director, University of New Hampshire, 108 McConnell Hall, Durham, NH 03824, (603) 862–2200

Mr. Randy Grissom, State Director, Santa Fe Community College, P.O. Box 4187, Santa Fe, NM 87502–4187, (505) 438–1362

Mr. Wally Kearns, State Director, University of North Dakota, Gamble Hall, University Station, Grand Forks, ND 58202–7308, (701) 777–3700

Mr. Sandy Cutler, State Director, Lane Community College, 99 West 10th Avenue, suite 216, Eugene, OR 97401, (503) 726–2250

Mr. Douglas Jobling, State Director, Bryant College, 1150 Douglas Pike, Smithfield, RI 02917, (401) 232–6111

Mr. Donald Greenfield, State Director, University of South Dakota, School of Business, 414 East Clark, Vermillion, SD 57069, (605) 677–5272

Dr. Kenneth J. Burns, State Director, Memphis State University, South Campus, building #1, Memphis, TN 38152, (901) 678–2500

Dr. Robert Smith, State Director, Department of Economic Development, 1021 East Cary Street, Richmond, VA 23206, (804) 371–8258

Mr. William Pinkovitz, State Director, University of Wisconsin, 432 North Lake Street, room 423, Madison, WI 53706, (608) 262–3878

Mr. David Nimkin, State Director, University of Utah, 102 West 500 South, Salt Lake City, UT 84101, (801) 581–7905

Mr. Lyle Anderson, State Director, Washington State University, College of Business and Economics, Pullman, WA 99164–4727, (509) 335–1576

[FR Doc. 93–18554 Filed 8–3–93; 8:45 am]

BILLING CODE 8250–01–M

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

Approval of Noise Compatibility Program; St. Augustine/St. Johns County Airport, St. Augustine, FL

AGENCY: Federal Aviation Administration, DOT.

ACTION: Notice.

SUMMARY: The Federal Aviation Administration (FAA) announces its findings on the Noise Compatibility Program submitted by the St. Augustine/St. Johns County Airport Authority under the provisions of title I of the Aviation Safety and Noise Abatement Act (ANSA) of 1979 (Pub. L. 96–193) and 14 CFR part 150. These findings are made in recognition of the description of Federal and nonfederal responsibilities in Senate Report No. 96–52 (1980). On January 13, 1993, the FAA determined that the noise exposure maps submitted by the St. Augustine/St. Johns County Airport Authority under part 150 were in compliance with applicable requirements. On July 12, 1993, the Administrator approved the St. Augustine/St. Johns County Airport Noise Compatibility Program. Most of the recommendations of the program were approved. No program elements relating to new or revised flight procedures for noise abatement were proposed by the airport operator.

EFFECTIVE DATE: The effective date of the FAA's approval of the St. Augustine/St. Johns County Airport Noise Compatibility Program is July 12, 1993.

FOR FURTHER INFORMATION CONTACT: Tommy J. Pickering, P.E., Federal Aviation Administration, Orlando Airports District Office, 9677 Tradeport Drive, Suite 130, Orlando, Florida 32827–3596, (407) 648–6583. Documents reflecting this FAA action may be reviewed at this same location.

SUPPLEMENTARY INFORMATION: This notice announces that the FAA has given its overall approval to the Noise Compatibility Program for the St. Augustine/St. Johns County Airport, effective July 12, 1993.

Under section 104(a) of the Aviation Safety and Noise Abatement Act (ASNA) of 1979 (hereinafter referred to as "the Act"), an airport operator who has previously submitted a noise exposure map may submit to the FAA a noise compatibility program which sets forth the measures taken or proposed by the airport operator for the reduction of existing noncompatible land uses and prevention of additional noncompatible land uses within the area covered by the noise exposure maps. The Act requires such program to be developed in consultation with interested and affected parties including local communities, government agencies airport users, and FAA personnel.

Each airport noise compatibility program developed in accordance with Federal Aviation Regulations (FAR) part 150 is a local program, not a Federal program. The FAA does not substitute its judgment for that of the airport proprietor with respect to which measure should be recommended for action. The FAA approval or disapproval of FAR part 150 program recommendations is measured according to the standards expressed in part 150 and the Act, and is limited to the following determinations:

a. The noise compactility program was developed in accordance with the provisions and procedures of FAR part 150.

b. Program measures are reasonably consistent with achieving the goals of reducing existing noncompatible land uses around the airport and preventing the introduction of additional noncompatible land uses;

c. Program measures would not create an undue burden on interstate or foreign commerce, unjustly discriminate against types or classes of aeronautical users, violate the terms of airport grant agreements, or intrude into areas preempted by the Federal Government; and

d. Program measures relating to the use of flight procedures can be implemented within the period covered by the program without derogating safety, adversely affecting the efficient use and management of the navigable airspace and air traffic control systems, or adversely affecting other powers and responsibilities of the Administrator prescribed by law.

Specific limitations with respect to FAA's approval of an airport noise compatibility program are delineated in FAR part 150, § 150.5. Approval is not a determination concerning the acceptability of land uses under Federal, state, or local law. Approval does not by itself constitute an FAA implementing action. A request for Federal action or approval to implement specific noise compatibility measures may be required, and an FAA decision on the request may require an environmental assessment of the proposed action. Approval does not constitute a commitment by the FAA to financially assist in the implementation of the program nor a determination that all measures covered by the program are eligible for grant-in-aid funding from the FAA. Where Federal funding is sought, requests for project grants must be submitted to the FAA Airports District Office in Orlando, Florida.

The St. Augustine/St. Johns County Airport Authority submitted to the FAA on December 9, 1992, the noise exposure maps, descriptions, and other documentation produced during the noise compatibility planning study conducted from August 1, 1990 through December 6, 1992. The St. Augustine/St. Johns County Airport noise exposure maps were determined by FAA to be in compliance with applicable requirements on January 13, 1993. Notice of this determination was published in the Federal Register on February 1, 1993.

The St. Augustine/St. Johns County Airport study contains a proposed Noise Compatibility Program comprised of actions designed for phased implementation by airport management and adjacent jurisdictions from the date of study completion to the year 1997. It was requested that FAA evaluate and approve this material as a noise compatibility program as described in section 104(b) of the Act. The FAA began its review of the program on January 13, 1993, and was required by a provision of the Act to approve or disapprove the program within 180 days (other than the use of new flight procedures for noise control). Failure to approve or disapprove such program within the 180-day period shall be deemed to be an approval of such program.

The submitted program contained eleven (11) proposed actions for noise mitigation on and off the airport. The FAA completed its review and determined that the procedural and substantive requirements of the Act and FAR part 150 have been satisfied. The overall program, therefore, was approved by the Administrator effective July 12, 1993.

Outright approval was granted for seven (7) of the eleven (11) specific program elements. Two (2) elements were approved in part, no action was taken on one (1) element, and one (1) element was disapproved for the purposes of part 150. The approval action was for the following program elements:

NOISE ABATEMENT CONTROL MEASURES

Measure	Description	NCP pages
Item 1	The Airport Authority recognizes FAA FAR part 36 requirements and the new national noise policy as it relates to the phase-out of operations by Stage 2 aircraft weighing over 75,000 pounds (14 CFR part 91). *FAA Action:* No action is needed on an individual airport basis to implement this measure. The phaseout of operations by Stage 2 aircraft weighing over 75,000 pounds is part of FAA's nationwide noise compatibility efforts.	Part II: pgs. 3–3, 4–1; and Table 4–3.
Item 2	Aspart of its Master Plan Update, the Airport Authority will close Runway 2–20. This will eliminate flight tracks associated with this runway that place aircraft over residential areas.*FAA Action:* Disapproved for purposes of part 150 because Runway 2–20 is proposed to be closed for reasons other than noise. Furthermore, it is not clear, based on the NEM contours, that the shifting of traffic from Runway 2–20 to Runway 6–24 has an overall beneficial result. This disapproval does not affect the potential closure of Runway 2–20 for other reasons.	Part I: Exhibits 2–5, 2–6, and 2–7; Part II: pgs. 3–8, 4–1, 4–2, Table 4–3, Exhibits 5–3 and 5–4.
Item 3	The Airport Authority will post FAR § 91.53 and NBAA approach and departure procedures and will request that pilots of turbo-jet and turboprop aircraft use these procedures. *FAA Action:* Approved as a voluntary measure..	Part II: pgs. 3–4, 4–2; and Table 4–3
Item 4	Preferential arrival, departure, and touch-and-go, and special application flight tracks will be recommended on a voluntary basis. *FAA Action:* Approved. The proposed tracks will reduce the number of flights over residential areas as much as practicable..	Part II: pgs. 4–2 and 4–6; Tables 4–1 and 4–2; and Exhibits 4–2, 4–3, and 4–4
Item 5	Jet maintenance run-up is the largest noise contributor at the airport and was frequently mentioned during public meetings. The Airport Authority has conducted a supplemental noise analysis using NOISEMAP to assess the runup-generated noise levels, since INM is not designed to do so. Grumman will finance a hush house that will be built in the northeast corner of the airport, far from noise sensitive areas to reduce this impact. *FAA Action:* Approved. This measure will be funded solely by the Grumman Corporation.	Part I: pg. 4–13; Part II: pgs. 3–7, 3–8, 4–7, Exhibit 4–1, and Table 4–3.
Item 6	The Airport Authority intends to activate the air traffic control tower (ATCT) located at the Grumman Corporation facility as a non-federal tower to facilitate airport operations and safety. When the ATCT is activated, this measure will establish air traffic control tower procedures which will enable tower personnel, as a secondary duty to airport operations, to monitor a Fly Neighborly Program. The Authority will work with local pilots and tenants to develop Fly Neighborly Program. The Program is designed to direct aircraft away from noise sensitive areas, and request that pilots fly noise abatement procedures according to the Noise Compatibility Program. *FAA Action:* Approved. The control tower's primary function is to facilitate airport operations and aircraft safety. As weather and workload permit, tower personnel would monitor traffic and recommend preferential flight tracks to minimize overflights of noise-sensitive areas. This approval is limited to control tower monitoring of the noise abatement program and is not related to activation of the non-Federal tower. The Airport Authority retains full authority to activate the tower as a non-federal facility outside the part 150 program.	Part II: pg. 3–8, 4–7, and Table 4–3.

LAND USE MEASURES

[Mitigating Noise Control Measures]

Measure	Description	NCP pages
Item 1	Land use compatibility strategies recommend that the Noise Exposure Maps developed under the part 150 Program be incorporated into St. Johns County's Comprehensive Plan and Land Development Code, and that the City of St. Augustine and St. Johns County establish an Intergovernmental Coordination Element to include a specific requirement that a representative from the Airport Authority be included in site review of development in proximity to the airport. *FAA Action:* Approved.	Part II: pgs. 3–9, 3–10, 4–14, 4–15, and Table 4–4.

LAND USE MEASURES—Continued

[Mitigating Noise Control Measures]

Measure	Description	NCP pages
Item 2	It is recommended that the St. Johns County zoning and noise ordinances be updated to change vacant developable property zoning within the airport environs or within the DNL 65 noise contour to a compatible land use, to not allow cumulative zoning around the airport, and to protect approaches from hazards to navigation by regulating heights of structures, the proliferation of objects that will emit electromagnetic interference, smoke or window glare due to architectural design. *FAA Action:* Approved in part. Approval with respect to the elimination of residential uses. This approval does not extend to approving the zoning of wetlands for commercial, industrial or manufacturing uses. Wetlands provide valuable, important ecological functions. The FAA encourages the County to establish zoning which protects both wetlands and noise compatibility. Furthermore, only those portions of the measure pertaining to noise compatibility are approved for part 150 purposes. Those segments of the measure pertaining to navigational hazards, electromagnetic emissions, and/or visual impacts are addressed under other FAA regulations such as part 77 (Imaginary Surfaces) and are not approvable for part 150 purposes. Disapproval of those recommendations pertaining to hazards, emissions, or impacts should not be construed as a determination regarding the benefits to aviation safety that these recommendations would provide. Local governments retain the right to implement these aviation safety measures outside of the part 150 program.	Part II: pgs. 3–10, 3–11, 4–15; Tables 3–2, 3–3, and 4–3
Item 3	Establish a noise disclosure program to record the noise exposure maps in the public records, to provide realtors with a copy of the noise exposure maps, and to require a noise disclosure statement for the sale of residential properties, for new residential construction, and/or for alterations to existing structures located within or in close proximity to the five-year noise exposure map. *FAA Action:* Approved. This measure is within the authority of local governments. The measure would alert potential occupants of homes in the vicinity to the existence of the airport and current and forecast noise exposure levels..	Part II: pgs. 3–11, 3–12, 4–15, and Table 4–4

LAND USE MEASURES—Continued

[Mitigating Noise Control Measures]

Measure	Description	NCP pages
Item 4	Purchase developable undeveloped property located within the DNL 65 contour that is subject to local regulations that allow noncompatible land uses and which can be acquired without condemnation. If land acquisition cannot be accomplished for noncompatible vacant property within the DNL 65 Contour, avigation easements for noise will be pursued. The Airport Authority is anticipating Federal funding as a source of money to accomplish this measure. *FAA Action:* Approved in part. Approval with respect to the prevention of future noncompatible land uses. This approval does not extend to approving the conversion of wetlands to commercial, industrial or manufacturing uses. Any application for Federal assistance for land acquisition would be subject to an assessment of potential wetland impacts and a Federal finding that there is no practical alternative to construction in wetlands and that the proposal includes all practicable measures to minimize harm to wetlands. In addition, it must be shown that purchase is necessary to prevent imminent conversion of the property to uses incompatible with the airport..	Part II: pgs. 3–12, 4–15, 4–16, Exhibit 4–7, and Table 4–4
Item 5	Purchase noncompatible residential property located within the DNL 65 contour. After purchase, property would be resold with avigation easements and deed restrictions that permit only noise compatible land uses. If noncompatible property cannot be acquired, avigation easements for noise will be pursued. *FAA Action:* Approved. FAA requires the Airport Authority to ensure that proceeds from the sale of this property are reimbursed to the FAA. In lieu of payment of money to the FAA, the Airport Authority should invest in other noise compatibility projects that are eligible under FAA's Airport Improvement Program. This approval does not extend to establishing commercial, industrial, or manufacturing activities in wetlands within the DNL 65 contour. FAA encourages local government to propose deed restrictions that protect the ecological integrity, function, and values of wetlands within the DNL 65 contour.	Part II: pgs. 3–12, 3–13, 4–16, Table 4–4, Exhibits 4–5 and 4–7.

These determinations are set forth in detail in a Record of Approval endorsed by the Administrator on July 12, 1993. The Record of Approval, as well as other evaluation materials and the documents comprising the submittal, are available for review at the FAA office listed above and the administrative offices of the St. Augustine/St. Johns County Airport Authority.

Issued in Orlando, Florida on July 23, 1993.

Charles E. Blair,

Manager, Orlando Airports District Office.

[FR Doc. 93–18564 Filed 8–3–93; 8:45 am]

BILLING CODE 4910–13–M

[Summary Notice No. PE–93–36]

Petitions for Exemption; Summary of Petitions Received; Dispositions of Petitions Issued

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of petitions for exemption received and of dispositions of prior petitions.

SUMMARY: Pursuant to FAA's rulemaking provisions governing the application, processing, and disposition of petitions for exemption (14 CFR part 11), this notice contains a summary of certain petitions seeking relief from specified requirements of the Federal Aviation Regulations (14 CFR chapter I), dispositions of certain petitions previously received, and corrections. The purpose of this notice is to improve the public's awareness of, and participation in, this aspect of FAA's regulatory activities. Neither publication of this notice nor the inclusion or omission of information in the summary is intended to affect the legal status of any petition or its final disposition.

DATES: Comments on petitions received must identify the petition docket number involved and must be received on or before August 24, 1993.

ADDRESSES: Send comments on any petition in triplicate to: Federal Aviation Administration, Office of the Chief Counsel, Attn: Rule Docket (AGC–10), Petition Docket No. _____, 800 Independence Avenue, SW., Washington, DC 20591.

The petition, any comments received, and a copy of any final disposition are filed in the assigned regulatory docket and are available for examination in the Rules Docket (AGC–10), room 915G, FAA Headquarters Building (FOB 10A), 800 Independence Avenue, SW., Washington, DC 20591; telephone (202) 267–3132.

FOR FURTHER INFORMATION CONTACT: Mr. Frederick M. Haynes, Office of Rulemaking (ARM–1), Federal Aviation Administration, 800 Independence Avenue, SW., Washington, DC 20591; telephone (202) 267–3939.

This notice is published pursuant to paragraphs (c), (e), and (g) § 11.27 of part 11 of the Federal Aviation Regulations (14 CFR part 11).

Issued in Washington, DC, on July 28, 1993.

Donald P. Byrne,

Assistant Chief Counsel for Regulations.

Docket No.: 26302

Petitioner: FlightSafety International
Sections of the FAR Affected: 14 CFR 135.293; 135.297; 135.299; 135.303; 135.337; and part 121, Appendix H
Description of Relief Sought: To extend the termination date of Exemption No. 5241, which allows FlightSafety International to offer contract pilot training services to part 135 certificate holders who operate turbojet/turboprop aircraft, including turbine-powered rotorcraft.

Docket No.: 27307
Petitioner: Comair, Inc.
Sections of the FAR Affected: 14 CFR 61.57(e)(1)(i); 121.433(c)(1) (i) and (iii); 121.440(a); 121.441(a)(1) and (b)(1); and part 121, Appendix F
Description of Relief Sought: To allow Comair to restructure its recurrent training program, including its annual simulator/aircraft proficiency check program, transition into a Single Visit Recurrent Training or Single Visit Training, and eventually transition into the Advanced Qualification Program as described in AC 120–54.

Docket No.: 27323
Petitioner: Mr. Russel H. Rickard
Sections of the FAR Affected: 14 CFR 121.383(c)
Description of Relief Sought. To allow Mr. Richard to serve as a pilot in part 121 air carrier operations after his 60th birthday.

Docket No.: 27337
Petitioner: Mr. Charles D. Scott
Sections of the FAR Affected: 14 CFR 121.383(c)
Description of Relief Sought: To allow Mr. Scott to serve as a pilot in part 121 air carrier operations after his 60th birthday.

Docket No.: 27339
Petitioner: Mr. L. W. Rausch
Sections of the FAR Affected: 14 CFR 121.383(c)
Description of Relief Sought: To allow Mr. Rausch to serve as a pilot in part 121 air carrier operations after his 60th birthday.

Docket No.: 27348
Petitioner: Northeast Express Regional Airlines
Section of the FAR Affected: 14 CFR 61.57(e)(1)(i); 121.433(c)(1)(iii); 121.440(a)(1) and (b)(1); 135.293(b); 135.297(a) and (c)(1); 135.299(a); part 61, Appendix A; and part 121, Appendix F
Description of Relief Sought: To allow Northeast Express Regional Airlines, dba Northwest Airlink, to transition into a single visit recurrent training program or a single visit training program, and eventually into the Advanced Qualification Program as described in AC 120.54.

Docket No.: 27350
Petitioner: Mr. Daniel Lawson
Sections of the FAR Affected: 14 CFR 121.383(c)
Description of Relief Sought: To allow Mr. Lawson to serve as a pilot in part 121 air carrier operations after his 60th birthday.

Docket No.: 27351
Petitioner: Mr. James Hall
Sections of the FAR Affected: 14 CFR 121.383(c)
Description of Relief Sought: To allow Mr. Hall to serve as a pilot in part 121 air carrier operations after his 60th birthday.

Dispositions of Petitions

Docket No.: 25501
Petitioner: Tridair Helicopters, Inc.
Sections of the FAR Affected: 14 CFR 21.19(b)(1)
Description of Relief Sought/Disposition: To amend Exemption No. 5025, to include the installation of two Allison Model 250–C20R turbine engines, in lieu of the single Allison Model 250–C30P turbine engine in a Bell Model 206L–4 helicopters, subject to all conditions and limitations of Exemption No. 5025.
Grant, July 23, 1993, Exemption No. 5025A

Docket No.: 26645
Petitioner: Memphis Soaring Society, Inc.
Sections of the FAR Affected: 14 CFR 61.118
Description of Relief Sought/Disposition: To allow private pilots to log the flight time accumulated while towing gliders for Memphis chapter members.
Grant, July 26, 1993, Exemption No. 5694

[FR Doc. 93–18562 Filed 8–3–93; 8:45 am]
BILLING CODE 4910–13–M

Devices That Prevent Blocked Channels Used in Two-Way Radio Communications Due to Simultaneous Transmissions

AGENCY: Federal Aviation Administration, DOT.

ACTION: Notice of availability.

SUMMARY: This notice announces the availability of and requests comments on a proposed technical standard order (TSO) pertaining to devices that prevent blocked channels used in two-way radio communications due to simultaneous transmissions. The proposed TSO prescribes the minimum performance standards that devices for preventing blocked channels use in two-way radio communications due to simultaneous transmissions must meet in order to be identified with the marking "TSO–C122."

DATES: Comments must be received on or before October 29, 1993.

ADDRESSES: Comments on the proposed technical standard order should identify the TSO file number and be sent to: Technical Analysis Branch, AIR–120, Aircraft Engineering Division, Aircraft Certification Service—File No. TSO–C122, Federal Aviation Administration, 800 Independence Avenue, SW., Washington, DC 20591. Or deliver comments to: Federal Aviation Administration, room 804, 800 Independence Avenue, SW., Washington, DC 20591.

FOR FURTHER INFORMATION CONTACT: Ms. Bobbie J. Smith, Technical Analysis Branch, AIR–120, Aircraft Engineering Division, Aircraft Certification Service, Federal Aviation Administration, 800 Independence Avenue, SW., Washington, DC 20591, telephone (202) 267–9546.

SUPPLEMENTARY INFORMATION:

Comments Invited

Interest persons are invited to comment on the proposed TSO listed in this notice by submitting such written data, views, or arguments as they desire to the above specified address. Comments received on the proposed technical standard order may be examined, before and after the comment closing date, in Room 804, FAA Headquarters Building (FOB–10A), 800 Independence Avenue, SW., Washington, DC 20591, weekdays except Federal holidays, between 8:30 a.m. and 4:30 p.m. All communications received on or before the closing date for comments specified above will be considered by the Director of the Aircraft Certification Service before issuing the final TSO.

Background

The aviation communications system includes ground-based and airborne receiving and transmitting equipment that provide air-to-ground, ground-to-air, air-to-air, and ground-to-ground voice and data communications.

Disruption to voice communications in the ATC system presents the potential for degrading flight safety. Although these communication disruptions may occur in areas where traffic density is low, the growth of air traffic (and communications) has increased the number of disruption incidents. Equipment that would be approved under this TSO is intended to minimize communication disruptions

caused by simultaneous voice transmissions.

How To Obtain Copies

A copy of the proposed TSO–C122 may be obtained by contacting the person listed under "FOR FURTHER INFORMATION CONTACT." TSO–C122 reference RTCA, Inc., RTCA/DO–209, dated April 25, 1992, for minimum performance standards; RTCA/DO–160C, dated December 4, 1989, for the environmental standard; And RTCA/DO–178B, dated December 1, 1992, for the computer software requirements. RTCA documents may be purchased from RTCA, Inc., 1140 Connecticut Avenue, NW., Suite 1020, Washington, DC. 20036.

Issued in Washington, DC on July 27, 1993.

Abbas A. Rizvi,

Acting Manager, Aircraft Engineering Division, Aircraft Certification Service.

[FR Doc. 93–18563 Filed 8–3–93; 8:45 am]

BILLING CODE 4910–13–M

Federal Highway Administration

Environmental Impact Statement: Erie County, PA

AGENCY: Federal Highway Administration (FHWA), DOT.

ACTION: Notice of intent.

SUMMARY: The FHWA is issuing this notice to advise the public that an environmental impact statement will be prepared for a proposed transportation project in Erie County, Pennsylvania

FOR FUTURE INFORMATION CONTACT: Mr. John Gerner, District Engineer, Federal Highway Administration, Courthouse and Federal Building, 228 Walnut Street, P.O. Box 1086, Harrisburg, Pennsylvania 17108–1086, Telephone (717) 782–3411 or William G. Petit, P.E., Design Services Engineer, Pennsylvania Department of Transportation, 1140 Liberty Street, Franklin, PA 16323, Telephone (814) 437–4270.

SUPPLEMENTARY INFORMATION: The FHWA, in cooperation with the Pennsylvania Department of Transportation (PennDOT), will develop the Erie Area East-Side Access Study. The purpose of this study is to improve access, improve safety and reduce road network congestion between the Lake Erie waterfront and Interstate Route 90 on the east side of Erie. The length of the study area is approximately six miles. Transportation improvement alternatives will include (1) upgrade existing roadway facilities; (2) construction of a roadway alignment on a new location; (3) mass transit improvements (new facilities and/or upgrade existing facilities); and (4) multi-modal facilities. A "No-Action" alternative will also be evaluated. This study will be conducted in two phases. Phase I will include Public Coordination, Project Scoping, Summarizing Findings of the Needs Analyses, and Developing a Preliminary Alternatives Analysis. Phase II will include a road network and/or Corridor Location Design Study, Environmental Impact Statement, section 4(f) Evaluation, and Public and Agency Coordination. All work will be performed in accordance with the PennDOT Highway Project Development Process and all applicable and FHWA policies and procedures as set forth in PennDOT Design Manuals and Directives.

Proposed access improvements will be consistent with solving deficiencies that exist in capacity, safety and access as described in the previously completed Erie East Side Needs Analysis developed for the Erie County Department of Planning and will support County and local municipal Comprehensive Plans. The Transportation needs are:

- Improved capacity of existing transportation system to support existing and planned growth.
- Localized improvements to the existing street system to reduce high accident rates.
- Increased mass transit service in portions of the study area to serve existing and planned growth.

The area to be studied for improvements encompasses portions of the City of Erie, Lawrence Park Township, Millcreek Township, Wesleyville Borough and Harborcreek Township in Erie County, Pennsylvania. It is bounded to the north by Lake Erie, to the south by Interstate Route 90, to the east by Hannon Road and to the west by Pine Avenue and State Street.

The following environmental areas will be investigated for EIS preparation; traffic; air quality; noise and vibration; surface water resources; aquatic environments; floodplains, groundwater; soils and geology; wetlands; vegetation and wildlife; endangered species; agricultural lands assessment; visual; socioeconomics and land use; construction impacts; energy; municipal, industrial, and hazardous waste facilities; historic structures and archeological sites; section 4(f) evaluation; and wild and scenic rivers.

A series of public meetings will be held in the project area beginning in May, 1993. In addition, a public hearing will be held. Public notice will be given of the time and place of the meetings and hearing. The draft EIS will be available for public and agency review and comment prior to the public hearing. No formal scoping meeting is planned at this time.

To ensure that the full range of issues related to this proposed action are addressed and all significant issues identified, comments and suggestions are invited from all interested parties. Comments or questions concerning this proposed action and the EIS should be directed to PennDOT or the FHWA at the address provided above.

(Catalog of Federal Domestic Assistance Program Number 20.205, Highway Planning and Construction. The regulations implementing Executive Order 12372 regarding intergovernmental consultation on Federal programs and activities apply to this program)

Issued on: July 22, 1993.

George L. Hannon,

Assistant Division Administrator, Harrisburg, Pennsylvania.

[FR Doc. 93–18504 Filed 8–3–93; 8:45 am]

BILLING CODE 4910–22–M

DEPARTMENT OF THE TREASURY

Public Information Collection Requirements Submitted to OMB for Review

July 28, 1993.

The Department of the Treasury has submitted the following public information collection requirement(s) to OMB for review and clearance under the Paperwork Reduction Act of 1980, Public Law 96–511. Copies of the submission(s) may be obtained by calling the Treasury Bureau Clearance Officer listed. Comments regarding this information collection should be addressed to the OMB reviewer listed and to the Treasury Department Clearance Officer, Department of the Treasury, Room 3171 Treasury Annex, 1500 Pennsylvania Avenue, NW., Washington, DC 20220.

Internal Revenue Service

OMB Number: 1545–0126.
Form Number: IRS Form 1120–F.
Type of Review: Revision.
Title: U.S. Income Tax Return of a Foreign Corporation.

Description: Form 1120–F is used by foreign corporations that have investments, or a business, or a branch in the U.S. The IRS uses Form 1120–F to determine if the foreign corporation has correctly reported its income, deductions, and tax, and to determine if it has paid the correct amount of tax.

Respondents: Businesses or other for-profit.

Estimated Number of Respondents/Recordkeepers: 18,000.

Estimated Burden Hours Per Respondent/Recordkeeper: Recordkeeping—103 hours, 47 minutes. Learning about the law or the form—39 hours, 53 minutes. Preparing the form—70 hours, 19 minutes. Copying, assembling, and sending the form to the IRS—7 hours, 47 minutes.

Frequency of Response: Annually.

Estimated Total Reporting/Recordkeeping Burden: 3,991,860 hours.

Clearance Officer: Garrick Shear (202) 622–3869, Internal Revenue Service, Room 5571, 1111 Constitution Avenue, NW., Washington, DC 20224.

OMB Reviewer: Milo Sunderhauf, (202) 395–6880, Office of Management and Budget, Room 3001, New Executive Office Building, Washington, DC 20503.

Lois K. Holland,

Departmental Reports, Management Officer.

[FR Doc. 93–18499 Filed 8–3–93; 8:45 am]

BILLING CODE 4830-01-P

Public Information Collection Requirements Submitted to OMB for Review

July 28, 1993.

The Department of the Treasury has submitted the following public information collection requirement(s) to OMB for review and clearance under the Paperwork Reduction Act of 1980, Public Law 96–511. Copies of the submission(s) may be obtained by calling the Treasury Bureau Clearance Officer listed. Comments regarding this information collection should be addressed to the OMB reviewer listed and to the Treasury Department Clearance Officer, Department of the Treasury, Room 3171 Treasury Annex, 1500 Pennsylvania Avenue, NW., Washington, DC 20220.

U.S. Customs Service

OMB Number: 1515–0002.

Form Number: CF 7507.

Type of Review: Extension.

Title: General Declaration (Outward/Inward).

Description: CF 7507 allows the agent or pilot to make entry or exit of the aircraft as required by statute. The form is used to document clearance by the arriving aircraft at the required inspection facilities and inspections by appropriate regulatory staff.

Respondents: Businesses or other for-profit.

Estimated Number of Respondents: 500.

Estimated Burden Hours Per Respondent: 5 minutes.

Frequency of Response: On occasion.

Estimated Total Reporting Burden: 124,950 hours.

Clearance Officer: Ralph Meyer, (202) 927–1552, U.S. Customs Service, Paperwork Management Branch, Room 6316, 1301 Constitution Avenue, NW., Washington, DC 20229.

OMB Reviewer: Milo Sunderhauf, (202) 395–6880, Office of Management and Budget, Room 3001, New Executive Office Building, Washington, DC 20503.

Lois K. Holland,

Departmental Reports, Management Officer.

[FR Doc. 93–18500 Filed 8–3–93; 8:45 am]

BILLING CODE 4830-01-P

Public Information Collection Requirements Submitted to OMB for Review

July 28, 1993.

The Department of Treasury has submitted the following public information collection requirement(s) to OMB for review and clearance under the Paperwork Reduction Act of 1980, Public Law 96–511. Copies of the submission(s) may be obtained by calling the Treasury Bureau Clearance Officer listed. Comments regarding this information collection should be addressed to the OMB reviewer listed and to the Treasury Department Clearance Officer, Department of the Treasury, Room 3171 Treasury Annex, 1500 Pennsylvania Avenue, NW., Washington, DC 20220.

U.S. Customs Service

OMB Number: New.

Form Number: None.

Type of Review: New collection.

Title: Trade Survey on Electronic Invoicing.

Description: Customs Service will survey the importing community to assist in identifying the state of the market, user needs and expectations, market potential, barriers and incentives, and necessary programming, training and equipment resources required for the expansion of the electronic invoicing program.

Respondents: Businesses or other for-profit, Small businesses or organizations.

Estimated Number of Respondents: 250.

Estimated Burden Hours Per Respondent: 5 minutes.

Frequency of Response: Other (One-Time).

Estimated Total Reporting Burden: 63 hours.

Clearance Officer: Ralph Meyer, (202) 927–1552,U.S. Customs Service, Paperwork Management Branch, Room 6316 1301 Constitution Avenue, NW., Washington, DC 20229.

OMB Reviewer: Milo Sunderhauf, (202) 395–6880, Office of Management and Budget, Room 3001, New Executive Office Building, Washington, DC 20503.

Lois K. Holland,

Departmental Reports, Management Officer.

[FR Doc. 93–18501 Filed 8–3–93; 8:45 am]

BILLING CODE 4830-02-P

UNITED STATES COMMISSION ON IMPROVING THE EFFECTIVENESS OF THE UNITED NATIONS

Meeting

AGENCY: United States Commission on Improving the Effectiveness of the United Nations.

ACTION: Notice of public meeting.

SUMMARY: The purpose of this meeting is to vote on the Commission's final report. The meeting is a continuation of the July 26, 1993 meeting. The Commission is unable to defer this meeting to provide the customary 15-day advance notice because of the press of deadlines.

DATES: August 5, 1993, 10 a.m. to 1 p.m.

ADDRESSES: The meeting will be held in room 2186 of the Rayburn House Office Building, Washington, DC.

FOR FURTHER INFORMATION CONTACT: Kathleen O'Leary, Administrative Officer, 1825 Connecticut Avenue, Ste. 1011, Washington, DC 20009: (202) 673–5012; telefax: (202) 673–5007.

Dated: July 30, 1993.

Gregory Wierzynski,

Executive Director.

[FR Doc. 93–18599 Filed 8–3–93; 8:45 am]

BILLING CODE 6820-BW-M

OFFICE OF THE UNITED STATES TRADE REPRESENTATIVE

[Docket No. 301–75]

Section 306 Review of the U.S.-Japan Supercomputer Agreement

AGENCY: Office of the United States Trade Representative.

ACTION: Request for written comments by Friday, October 1, 1993 in connection with section 306 review of implementation of the U.S.-Japan Supercomputer Agreement.

SUMMARY: The Office of the United States Trade Representative (USTR) is seeking the views of interested parties on the implementation by the Government of Japan of the U.S.-Japan Supercomputer Agreement (Agreement). The review will assess all factors relevant to the implementation of the Agreement by the Government of Japan. It will in particular assess whether

current and upcoming Japanese Government procurement of supercomputers is being carried out in accordance with the provisions of the Agreement. USTR is especially interested in the experience and views of those companies participating in Japanese Government supercomputer procurement under the supplementary budget of the current Japanese Fiscal Year (April 1, 1993–March 31, 1994).

FURTHER INFORMATION CONTACT: For information concerning the review, contact David A. Gutschmit, Office of Japan and China, USTR, (202) 395–5070 or Laura B. Sherman, Office of the General Counsel, USTR, (202) 395–3150. For information concerning filing procedures contact Dottie Balaban, Office of the General Counsel, USTR (202) 395–3432.

SUPPLEMENTARY INFORMATION: On June 16, 1989, USTR initiated an investigation under section 302(b)(1) of the Trade Act of 1994, as amended, concerning Japan's government procurement practices with respect to supercomputers (54 FR 26137). These practices had been identified on May 26, 1989 as "priority practices" of a "priority country" under section 310(a)(1) of the 1974 Trade Act, as amended. Subsequent to the initiation of the investigation, the United States sought to negotiate an agreement with Japan to replace a 1987 supercomputer agreement, under which no foreign supercomputers had been procured.

On June 15, 1990, USTR concluded with the Government of Japan and exchange of letters, with attachment (the 1990 Supercomputer Agreement), to replace the 1987 agreement. The 1990 Agreement specifies detailed procedures the Government of Japan agreed to use in government procurement of supercomputers. The Japanese Government committed that its purchasing entities would follow open, competitive and transparent procedures in acquisitions. These procedures include the establishment of a bid protest system. Copies of the 1990 Agreement are available in the USTR Reading Room (room 101).

Reflecting grave concern that Japan may not be adhering to the terms of the 1990 Supercomputer Agreement, the United States Trade Representative announced on April 30, 1993 that USTR would undertake a special review under section 306 of the Trade Act of 1974, as amended, of Japanese actions under the Agreement. In the course of the review, USTR will evaluate Japanese Government implementation of the Agreement to date, and will closely scrutinize Japan's conduct in each of the supercomputer procurements upcoming during the current Japanese fiscal year (April 1, 1993–March 31, 1994). Based on this review and the outcome of the current procurement cycle, USTR will determine whether or not Japan is in compliance with the terms of the Agreement.

USTR is requesting written comments on the implementation by the Government of Japan of the 1990 U.S.-Japan Supercomputer Agreement. Comments must be filed in accordance with the requirements set forth in 15 CFR 2006.8(b) and are due no later than 12 noon, Friday, October 1, 1993. Comments must be in English and provided in twenty copies to: Chairman, Section 301 Committee, room 233, 600 Seventeenth Street, NW., Washington, DC 20506.

Comments will be placed in a file (Docket 301–75) open to public inspection pursuant to 15 CFR 2006.15. Confidential business information submitted in accordance with 15 CFR 2006.15 must be clearly marked "Business Confidential" in a contrasting color ink at the top of each page on each of 20 copies, and must be accompanied by the nonconfidential summary of the confidential information. The nonconfidential summary will be placed in the Docket, which is open to public inspection.

Irving A. Williamson,

Chairman, Section 301 Committee.

[FR Doc. 93–18505 Filed 8–3–93; 8:45 am]

BILLING CODE 3190–01–M

Sunshine Act Meetings

Federal Register
Vol. 58, No. 148
Wednesday, August 4, 1993

This section of the FEDERAL REGISTER contains notices of meetings published under the "Government in the Sunshine Act" (Pub. L. 94-409) 5 U.S.C. 552b(e)(3).

UNITED STATES PAROLE COMMISSION

Record of Vote of Meeting Closure (Public Law 94–409) (5 U.S.C. Sec. 552b)

I, Edward F. Reilly, Jr., Chairman of the United States Parole Commission, presided at a meeting of said Commission which started at approximately nine a.m. on Tuesday, July 27, 1993 at the Commission's Central Office, 5550 Friendship Boulevard, Chevy Chase, Maryland 20815. The purpose of the meeting was to decide nineteen appeals from National Commissioner's decisions pursuant to 28 C.F.R. § 2.27. Also discussed were personnel matters and one application for an exemption under 29 U.S.C. § 504(a). Five Commissioners were present, constituting a quorum when the vote to close the meeting was submitted.

Public announcement further describing the subject matter of the meeting and certifications of General Counsel that this meeting may be closed by vote of the Commissioners present were submitted to the Commissioners prior to the conduct of any other business. Upon motion duly made, seconded, and carried, the following Commissioners voted that the meeting be closed: Edward F. Reilly, Jr., Carol Pavilack Getty, Jasper Clay, Jr., Vincent Fechtel, Jr., and John R. Simpson.

IN WITNESS WHEREOF, I make this official record of the vote taken to close this meeting and authorize this record to be made available to the public.

Dated: July 28, 1993.

Edward F. Reilly, Jr.,

Chairman, U.S. Parole Commission.

[FR Doc. 93–18660 Filed 7–30–93; 5:08 pm]

BILLING CODE 4410–01–M

NATIONAL SCIENCE BOARD

DATE AND TIME:

August 12, 1993, 2:30 p.m., Open Session
August 13, 1993, 9:30 a.m., Closed Session
August 13, 1993, 12:00 p.m., Open Session

PLACE: National Science Foundation, 1800 G Street, NW, Rm. 540, Washington, DC 20550.

STATUS:

Part of this meeting will be open to the public
Part of this meeting will be closed to the public

MATTERS TO BE CONSIDERED:

Thursday, August 12, 1993

Open Session (2:30 p.m.–4:00 p.m.)

1. Minutes of June 1993 Meeting
2. Chairman's Report
3. Acting Director's Report
4. Presentation on Civil Infrastructure

Friday, August 13, 1993

Closed Session (9:30 a.m.–12:00 p.m.)

5. Grants and Contracts
6. Minutes of June 1993 Meeting
7. FY 95 Budget

Open Session (12:00 Noon–12:15 p.m.)

8. Reports from Committees
9. Other Business

Marta Cehelsky,

Executive Officer.

[FR Doc. 93–18661 Filed 7–30–93; 5:09 pm]

BILLING CODE 7555–01–M

SECURITIES AND EXCHANGE COMMISSION

Notice is hereby given, pursuant to the provisons of the Government in the Sunshine Act, Pub. L. 94–409, that the Securities and Exchange Commission will hold the following meetings during the week of August 2, 1993.

A closed meeting will be held on Tuesday, August 3, 1993, at 2:30 p.m. An open meeting will be held on Friday, August 6, 1993, at 10:00 a.m.

Commissioners, Counsel to the Commissioners, the Secretary to the Commission, and recording secretaries will attend the closed meeting. Certain staff members who have an interest in the matters may also be present.

The General Counsel of the Commission, or his designee, has certified that, in his opinion, one or more of the exemptions set forth in 5 U.S.C. 552b(c)(4), (8), (9)(A) and (10) and 17 CFR 200.402(a)(4), (8), (9)(i) and (10), permit consideration of the scheduled matters at a closed meeting.

Commissioner Schapiro, as duty officer, voted to consider the items listed for the closed meeting in a closed session.

The subject matter of the closed meeting scheduled for Tuesday, August 3, 1993, at 2:30 p.m., will be:

Institution of injunctive actions.
Settlement of injunctive actions.
Institution of administrative proceedings of an enforcement nature.
Settlement of administrative proceedings of an enforcement nature.

Opinions

The subject matter of the open meeting scheduled for Friday, August 6, 1993, at 10:00 a.m., will be:

Consideration of whether to issue interpretive guidance regarding the executive compensation disclosure requirements and to clarify an issuer's obligation with respect to stock lists and mailing of shareholder soliciting material. The Commission also will consider whether to propose for comment several refining and technical amendments to the executive compensation disclosure rules. For further information, please contact Gregg W. Corso, Paula Dubberly, Brian L. Henry, or Thomas D. Twedt at (202) 272–3098.

At times, changes in Commission priorities require alterations in the scheduling of meeting items. For further information and to ascertain what, if any, matters have been added, deleted or postponed, please contact: Stephen Luparello at (202) 272–2100.

Dated: July 20, 1993.

Jonathan G. Katz,

Secretary.

[FR Doc. 93–18706 Filed 8–2–93; 11:45 am]

BILLING CODE 8010–01–M

federal register

Wednesday
August 4, 1993

Part II

Environmental Protection Agency

Draft Report: Principles of Neurotoxicity Risk Assessment; Notice

ENVIRONMENTAL PROTECTION AGENCY

[FRL–4677–5]

Draft Report: Principles of Neurotoxicity Risk Assessment

AGENCY: Environmental Protection Agency.

ACTION: Request for comments on the Draft Report: Principles of Neurotoxicity Risk Assessment.

SUMMARY: The U.S. Environmental Protection Agency today is publishing and requesting comments on a document entitled Draft Report: Principles of Neurotoxicity Risk Assessment, which was prepared by the Working Party on Neurotoxicology under the auspices of the Subcommittee on Risk Assessment of the Federal Coordinating Council for Science, Engineering, and Technology (FCCSET). The purpose of this report is to articulate a view of neurotoxicology that scientists generally hold in common today and to draw on this understanding to generate a series of general principles that can be used to establish guidelines for assessing neurotoxicity risk. It is not the intent of this report to provide specific directives for how neurotoxicity risk assessment should be performed. The intent of this document is to provide the scientific basis for developing a cogent strategy for neurotoxicity risk assessment.

The public is invited to comment; public comments will be considered in revising the report. Commenters are asked to focus specifically on several issues: (1) Definitions of neurotoxicity and adverse effect, (2) general state of knowledge of the neurosciences relating to neurotoxicology, (3) appropriateness of methodologies to detect and characterize neurotoxic effects in humans, (4) appropriateness of methodologies to detect and characterize neurotoxic effects in animals, (5) adequacy of tier-testing approaches for chemical evaluations, and (6) adequacy of generic assumptions in quantitative and qualitative neurotoxicology risk assessment.

The complete text of the draft report is published as the last section of this notice.

DATES: The draft report is available for a 90-day public review and comment period. Comments must be in writing and postmarked by November 2, 1993.

INSPECTION: This notice, references, supporting documents, and other relevant materials are available for inspection at the ORD Public Information Shelf at the EPA Headquarters Library, 401 M Street, SW, Washington, DC; telephone: (202) 260–5926. The library is open daily from 10 a.m. to 4 p.m., except weekends and Federal holidays.

ADDRESSES: Comments should be sent to Dr. Hugh A. Tilson, Project Officer for Principles of Neurotoxicity Risk Assessment, Neurotoxicology Division (MD–74B), Health Effects Research Laboratory, U.S. Environmental Protection Agency, Research Triangle Park, NC 27711; or fax (919) 541–4849.

Reprints of the Draft Report: Principles of Neurotoxicity Risk Assessment may be obtained from the ORD Publications Center, CERI–FRN, U.S. Environmental Protection Agency, 26 West Martin Luther King Drive, Cincinnati, OH 45268; telephone (513) 569–7562; fax (513) 569–7566. Please provide name, mailing address, and the EPA document number, EPA/600/–Z–93/001.

FOR FURTHER INFORMATION CONTACT: Dr. Hugh A. Tilson, Neurotoxicology Division (MD–74B), Health Effects Research Laboratory, U.S. Environmental Protection Agency, Research Triangle Park, NC 27711; telephone (919) 541–2671; fax (919) 541–4849.

SUPPLEMENTARY INFORMATION: This document is the result of the combined efforts of senior scientists of 12 Federal agencies comprising the ad hoc Interagency Committee on Neurotoxicology, including the Agency for Toxic Substances and Disease Registry, Center for Food Safety and Applied Nutrition, Center for Biologics Evaluation and Research, Center for Drug Evaluation and Research, Consumer Product Safety Commission, Department of Agriculture, Department of Defense, Environmental Protection Agency, National Center for Toxicological Research, National Institutes of Health, National Institute for Occupational Safety and Health, and National Toxicology Program. Discussions were held under the auspices of the Working Party on Neurotoxicology of the Subcommittee on Risk Assessment of the Federal Coordinating Council for Science, Engineering, and Technology. The draft report, a product of the Working Party on Neurotoxicology, contains six chapters: an introduction, an overview of the discipline of neurotoxicology, a review of methods for assessing human neurotoxicity, a review of methods for assessing animal neurotoxicity, an overview of principles of neurotoxicity risk assessment, and a general summary.

The draft report was prepared in view of the decision-making processes currently used by many regulatory agencies relating to neurotoxicity risk assessment. It is intended that the principles reviewed in this document will serve as the basis for consistent regulatory neurotoxicity guidelines to be used by Federal agencies to meet their respective legislative mandates. This document is not meant to be used to perform risk assessment nor does it recommend one approach or strategy. The document reviews the science of neurotoxicology and attempts to formulate general assumptions and principles that could lead to such approaches or strategies.

The draft report has undergone preliminary interagency review under the auspices of the Subcommittee on Risk Assessment of FCCSET. Public comments and a concurrent external scientific peer review will contribute to the development of a final report by the Working Party on Neurotoxicology that will provide the scientific basis for neurotoxicology risk assessment strategies to be used by a broad segment of Federal agencies.

Dated: June 29, 1993.

Carl R. Gerber,

Acting Assistant Administrator for Research and Development.

Draft Report: Principles of Neurotoxicology Risk Assessment

Contents

1. Introduction
   1.1. Background
   1.2. Purpose of This Report
   1.3. Context of This Report
   1.4. Content of This Report
2. Overview of Neurotoxicology
   2.1. Scope of the Problem
   2.1.1. Introduction
   2.1.2. Examples of Neurotoxicity and Incidents of Exposure
   2.1.3. Federal Response
   2.1.3.1. Food and Drug Administration
   2.1.3.2. Occupational Safety and Health Administration
   2.1.3.3. National Institute for Occupational Safety and Health
   2.1.3.4. Environmental Protection Agency
   2.1.3.5. Consumer Product Safety Commission
   2.1.3.6. Agency for Toxic Substances and Disease Registry
   2.2. Basic Toxicological Considerations for Neurotoxicity
   2.2.1. Basic Toxicological Principles
   2.2.2. Basic Neurotoxicological Principles
   2.3. Basic Neurobiological Principles
   2.3.1. Structure of the Nervous System
   2.3.2. Transport Processes
   2.3.3. Ionic Balance
   2.3.4. Neurotransmission
   2.4. Types of Effects on the Nervous System
   2.5. Special Considerations
   2.5.1. Susceptible Populations
   2.5.2. Blood-Brain and Blood-Nerve Barriers

2.5.3. Metabolism
2.5.4. Limited Regenerative Ability
3. Methods for Assessing Human Neurotoxicity
3.1. Introduction
3.2. Clinical Evaluation
3.2.1. Neurologic Evaluation
3.2.2. Neuropsychological Testing
3.2.3. Applicability of Clinical Methods to Neurotoxicology Risk Assessment
3.3. Current Neurotoxicity Testing Methods
3.3.1. Neurobehavioral Methods
3.3.1.1. Test Batteries
3.3.1.2. Investigator-Administered Test Batteries
3.3.1.3. Computerized Test Batteries
3.3.2. Neurophysiologic Methods
3.3.3. Neurochemical Methods
3.3.4. Imaging Techniques
3.3.5. Neuropathologic Methods
3.3.6. Self-Report Assessment Methods
3.3.6.1. Mood Scales
3.3.6.2. Personality Scales
3.4. Approaches to Neurotoxicity Assessment
3.4.1. Epidemiologic Studies
3.4.1.1. Case Reports
3.4.1.2. Cross-Sectional Studies
3.4.1.3. Case-Control (Retrospective) Studies
3.4.1.4. Prospective (Cohort, Followup) Studies
3.4.2. Human Laboratory Exposure Studies
3.4.2.1. Methodologic Aspects
3.4.2.2. Human Subject Selection Factors
3.4.2.3. Exposure Conditions and Chemical Classes
3.4.2.4. Test Methods
3.4.2.5. Controls
3.4.2.6. Ethical Issues
3.5. Assessment of Developmental Neurotoxicity
3.5.1. Developmental Deficits
3.5.2. Methodologic Considerations
3.6. Issues in Human Neurotoxicology Test Methods
3.6.1. Risk Assessment Criteria for Neurobehavioral Test Methods
3.6.1.1. Sensitivity
3.6.1.2. Specificity
3.6.1.3. Reliability and Validity
3.6.1.4. Dose Response
3.6.1.5. Structure-Activity
3.6.2. Other Considerations in Risk Assessment
3.6.2.1. Mechanisms of Action
3.6.2.2. Exposure Duration
3.6.2.3. Time-Dependent Effects
3.6.2.4. Multiple Exposures
3.6.2.5. Generalizability and Individual Differences
3.6.2.6. Veracity of Neurobehavioral Test Results
3.6.3. Cross-Species Extrapolation
4. Methods To Assess Animal Neurotoxicity
4.1. Introduction
4.1.1. Role of Animal Models
4.1.2. Validity of Animal Models
4.1.3. Special Considerations in Animal Models
4.1.3.1. Susceptible Populations
4.1.3.2. Dosing Scenario
4.1.3.3. Other Factors
4.1.3.4. Statistical Considerations
4.2. Tiered Testing in Neurotoxicology
4.2.1. Type of Test
4.2.2. Dosing Regimen
4.3. Endpoints of Neurotoxicity
4.3.1. Introduction
4.3.2. Behavioral Endpoints
4.3.2.1. Functional Observational Batteries
4.3.2.2. Motor Activity
4.3.2.3. Neuromotor Function
4.3.2.4. Sensory Function
4.3.2.5. Learning and Memory
4.3.2.6. Schedule-Controlled Behavior
4.3.3. Neurophysiological Endpoints of Neurotoxicity
4.3.3.1. Nerve Conduction Studies
4.3.3.2. Sensory Evoked Potentials
4.3.3.3. Convulsions
4.3.3.4. Electroencephalography
4.3.3.5. Electromyography
4.3.3.6. Spinal Reflex Excitability
4.3.4. Neurochemical Endpoints of Neurotoxicity
4.3.5. Structural Endpoints of Neurotoxicity
4.3.6. Developmental Neurotoxicity
4.3.7. Physiological and Neuroendocrine Endpoints
4.3.8. Other Considerations
4.3.8.1. Structure-Activity Relationship
4.3.8.2. In Vitro Methods
5. Neurotoxicology Risk Assessment
5.1. Introduction
5.2. The Risk Assessment Process
5.2.1. Hazard Identification
5.2.1.1. Human Studies
5.2.1.2. Animal Studies
5.2.1.3. Special Issues
5.2.2. Dose-Response Assessment
5.2.3. Exposure Assessment
5.2.4. Risk Characterization
5.3. Generic Assumptions and Uncertainty Reduction
6. General Summary
7. References

Tables

1–1. Major Regulatory Agencies
1–2. Authorities for Toxicity Testing
2–1. Human Neurotoxic Exposures
3–1. Neurobehavioral Methods
4–1. Examples of Potential Endpoints of Neurotoxicity
4–2. Examples of Specialized Tests to Measure Neurotoxicity
4–3. Summary of Measures in the Functional Observational Battery and the Type of Data Produced by Each
4–4. Neurotoxicants With Known Neurochemical Mechanisms
4–5. Examples of Known Neuropathic Agents
4–6. Partial List of Agents Believed to Have Developmental Neurotoxicity
5–1. General Assumptions That Underlie Traditional Risk Assessments

1. Introduction

1.1. Background

Over the years, agencies and programs have been established to deal with hazardous substances, with a focus on deleterious long-term effects, such as neurotoxicity (Reiter, 1987). Recent evidence indicates that exposure to neurotoxic agents may constitute a significant health problem (WHO, 1986; OTA, 1990; chapter 2). Table 1–1 lists the four Federal regulatory agencies with authority to regulate either exposure to or use of chemicals and that require data reporting on assessment of hazards. Regulatory bodies vary greatly in their mandate to require approval of chemicals prior to entering the marketplace and to regulate subsequent exposure (Fisher, 1980) (Table 1–2). The Occupational Safety and Health Administration (OSHA) cannot require chemical testing by the manufacturer whereas all other agencies can. Only the Food and Drug Administration (FDA) and the Environmental Protection Agency (EPA) have authority for premarketing testing of chemicals (i.e., FDA for drugs and food additives and EPA for pesticides). EPA can, under some circumstances, require premarket testing of industrial and agricultural chemicals. The Consumer Product Safety Commission (CPSC) regulates a number of consumer products including household chemicals and fabric treatments. Laws administered by CPSC require cautionary labeling on all hazardous household products whether the hazard is based on acute or chronic effects. These laws also provide the authority to ban hazardous products and to ask for data in support of product labeling.

TABLE 1–1.—MAJOR REGULATORY AGENCIES

Agency	Statute and sources covered
Food and Drug Administration (FDA). A unit of the Department of Health and Human Services with authority over the regulation of medical and veterinary drugs; foods and food additives; cosmetics.	Food, Drug, and Cosmetics Act for food additives; color in cosmetics; medical devices; animal drugs of medical and feed additives.
Occupational Safety and Health Administration (OSHA). A unit of the Department of Labor that regulates workplace conditions.	Occupational Safety and Health Act covers toxic chemicals in the workplace.

TABLE 1–1.—MAJOR REGULATORY AGENCIES—Continued

Agency	Statute and sources covered
Environmental Protection Agency (EPA). Independent agency (i.e., not part of a Cabinet department); administers a number of diverse laws concerned with human health and the environment.	Toxic Substances Control Act requires premanufacture evaluation of all new chemicals (other than foods, food additives, drugs, pesticides, alcohol, tobacco); allows EPA to regulate existing chemical hazards not sufficiently controlled under other laws. Clean Air Act requires regulation of hazardous air pollutants. Federal Water Pollution Control Act governs toxic water pollutants. Safe Drinking Water Act covers drinking water contaminants. Federal Insecticide, Fungicide, and Rodenticide Act covers pesticides. Resource Conservation and Recovery Act covers hazardous wastes. Marine Protection Research and Sanctuaries Act covers ocean dumping.
Consumer Product Safety Commission (CPSC). Regulates a variety of consumer products including household chemicals and fabric treatments.	Federal Hazardous Substances Act covers "toxic" household products. Consumer Product Safety Act covers dangerous consumer products. Poison Prevention Packaging Act covers packaging of dangerous children's products. Lead-Based Paint Poison Prevention Act covers use of lead paint in federally assisted housing.

TABLE 1–2.— AUTHORITIES FOR TOXICITY TESTING

Agency	Law	Coverage	Authorities		
			Premarketing approval	Testing by manufacturer	Reporting of data
FDA	Food, Drug, and Cosmetics Act	Drugs and foods	X	X	X
		Food additives and cosmetics	X	X	
EPA	Federal Insecticide, Fungicide, and Rodenticide Act.	Pesticides	X	X	X
	Toxic Substances Control Act	Industrial chemicals	(X) [1]	X	X
	Clean Air Act	Air pollutants.			
	Resource Conservation and Recovery Act.	Industrial waste		X	X
OSHA	Occupational Safety and Health Act	Occupational exposure			X
CPSC	Federal Hazardous Substances Act	Consumer products			X
	Consumer Product Safety Act	Consumer products			X

[1] Can require testing based on available data.

1.2. Purpose of This Report

The purpose of this document is to: (1) Articulate a view of neurotoxicity that scientists generally hold in common today and (2) draw upon this understanding to compose, as was done here by senior scientists from a number of Federal agencies, a series of general principles that can be used to establish general guidelines for assessing neurotoxicity risk. It is not the intent of this report to provide specific directives to agencies with respect to their own approach for neurotoxicity risk assessment. This document is intended to provide the scientific basis for the development of a cogent strategy for neurotoxicology risk assessment as needed by each agency.

Because of present gaps in understanding, the principles contained in this document are based on the best judgment of those involved in writing this document, as well as statements of what is generally accepted as fact. There has been, however, an attempt to distinguish where possible between the different types of information presented.

The principles contained in this document can serve as the basis for consistent regulatory neurotoxicology guidelines that the Federal agencies can tailor to meet the requirements of the legislative acts they are charged to implement. This document should be viewed broadly as part of an ongoing process within the Federal Government to periodically update and review the current scientific understanding and regulatory utility of neurotoxicity risk assessment.

This document is the result of the combined efforts of senior scientists from the following Federal health-related units, operating under the direction of the Office of Science and Technology Policy (OSTP):

Agency for Toxic Substances and Disease Registry (ATSDR)
Center for Biologics Evaluation and Research (CBER), FDA
Center for Drug Evaluation and Research (CDER), FDA
Center for Food Safety and Applied Nutrition (CFSAN), FDA
Consumer Product Safety Commission
Department of Agriculture (USDA)
Department of Defense (DoD)
Environmental Protection Agency
National Center for Toxicological Research (NCTR), FDA
National Institutes of Health (NIH)
National Institute for Occupational Safety and Health
National Toxicology Program (NTP)

1.3. Context of This Report

This document was prepared in light of a decision-making process used by many regulatory agencies pertaining to the assessment of neurotoxicity risks posed by chemical agents. The scientific basis for such assessment can be best understood by examining the decision-making process in some detail.

Risk can be thought of as being composed of two aspects, each of which can be addressed by science, i.e., hazard and exposure assessment. Although other definitions have been used historically, this document conforms to

present usage. Hazard generally refers to the toxicity of a substance and is deduced from a wide array of data, including those from epidemiological studies or controlled clinical trials in humans, short- and long-term toxicological studies in animals, and studies of mechanistic information and structure-activity relationships. Exposure generally refers to the amount of a substance with which people come in contact. The risk in a quantitative risk assessment is estimated by considering the results of the exposure and hazard assessments. As either the hazard or exposure approaches zero, the risk also approaches zero.

As a first step in assessing the neurotoxic risk associated with the use of a particular chemical substance, the qualitative evidence that a given chemical substance is likely to be a human neurotoxicant must be evaluated. In this step, as in the whole process, a number of assumptions and approximations must be made in order to deal with inherent limitations found in the existing data bases. Then, estimates of human exposure and distribution of exposures likely to be encountered in the population are made. In the absence of dose-response relationships in humans, one or more methods for estimating the dose-response relationship including doses below those generally used experimentally must also be evaluated. Finally, the exposure assessment is combined with the dose-response relationship to generate an estimate of risk. The various ways in which these steps are conducted and combined and their attendant uncertainties constitute what is generally referred to as "neurotoxicity risk assessment."

Some legislation calls for action in the presence of any risk. Other forms of legislation use the concept of unreasonable risk, defined in some acts as a condition in which the risks outweigh the benefits. A spectrum of regulatory responses, from simply informing the public of a risk through restricted use to a complete ban, may be available to bring the risks and benefits into appropriate balance.

This document does not perform a risk assessment nor does it suggest that one method of neurotoxicology risk assessment is better than another. Rather, it attempts to review the science of chemical neurotoxicology and develops from this review a set of general principles. It is not a comprehensive review nor a document written for the lay public; this document is a semitechnical review that evaluates the impact of scientific findings of the last decade on general assumptions or principles important to risk assessment. This is based on the belief that elucidation of the basic mechanisms underlying neurotoxicity and the identification of neurotoxic agents and conditions, when coupled to research aimed at identifying and characterizing the problems caused by such agents, should provide the best scientific bases for making sound and reasonable judgments. These overlapping approaches to evaluating the problems of neurotoxicology should form a strong foundation for decision-making.

1.4. Content of This Report

Including the Introduction (chapter 1), this document contains six chapters. Chapter 2 provides an overview of the discipline of neurotoxicology. It is important to understand the scope of the problem as it relates to neurotoxicology, including: (1) Definitions of neurotoxicity and adverse effect, (2) Examples of neurotoxicity and incidents of exposure, and (3) Federal response to neurotoxicology. Chapter 2 also discusses the basic principles of toxicology that apply generally to the evaluation of neurotoxicity. Issues such as dose, exposure, target site, and the intended use of the chemical are discussed, as are principles of pharmacodynamics, chemical interactions, and the concept of threshold. Chapter 2 also lays the neurobiological basis for understanding how and where chemicals can affect the nervous system and provides examples of such chemical types. Finally, chapter 2 discusses special considerations for neurotoxicology including the issue of susceptible populations, the blood brain barrier, and the limited capability of the nervous system to repair following chemical insult.

Chapter 3 examines methods for assessing human neurotoxicity. Neurologic evaluations, neuropsychological testing, and applicability of methods used in clinical evaluations and case studies are discussed in this chapter. Epidemiologic study designs, endpoints, and methods are also discussed, as well as problems of causal inference and applications and limitations of epidemiologic and field study methods for risk assessment. Chapter 3 also describes human laboratory exposure studies, including methods for assessing neurobehavioral function, self-report methods for assessing subjective states, and a number of other methodological issues. This chapter also discusses the comparability of human and animal laboratory methods and special considerations in human neurotoxicity assessments.

Chapter 4 assesses methods for evaluating animal neurotoxicity. Discussed in this chapter is the role that animal models play in the assessment of chemicals for neurotoxicity, the validity of animal models, and experimental design considerations in animal neurotoxicological studies. Also included in this chapter is a discussion of tier-testing approaches in chemical evaluations. Specific endpoints used in animal neurotoxicological studies are also discussed, including methods for neurobehavioral, neurophysiological, neuroanatomical, and neurochemical assessments. Developmental neurotoxicology and in vitro neurotoxicology are also described in this chapter.

Chapter 5 of this document discusses principles of neurotoxicity risk assessment. This chapter evaluates the generic assumptions in neurotoxicity risk assessment, ending with a discussion of uncertainty reduction and identification of knowledge gaps.

Chapter 6 is a general summary of the material presented in the first five chapters.

2. Overview of Neurotoxicology

2.1. Scope of the Problem

2.1.1. Introduction

Chemicals are an integral part of our lives, with the capacity to both improve as well as endanger our health. The general population is exposed to chemicals with neurotoxic properties in air, water, foods, cosmetics, household products, and drugs used therapeutically or illicitly. Naturally occurring neurotoxins, such as fish and plant toxins, present other hazards. During the daily life of an ordinary person, there is a multitude of exposures, both voluntary and unintentional, to neuroactive substances. Under conditions of multiple exposures, identifying the substance responsible for an adverse response may be difficult. The EPA's inventory of toxic chemicals is greater than 65,000 and increasing yearly. An overwhelming majority of the materials in commercial use have not been tested for their neurotoxic potential (NRC, 1984).

It is not known how many chemicals are neurotoxic to humans due to the limited number tested for adverse effects on the nervous system. However, estimates have been made for subsets of substances. A large percentage of the more than 500 registered active pesticide ingredients are neurotoxic to varying degrees. Of 588 chemicals listed by the American Conference of Government and Industrial Hygienists

(ACGIH), 167 affected the nervous system or behavior (Anger, 1984). Anger (1990a) estimated that of the approximately 200 chemicals to which one million or more American workers are exposed, more than one-third may have adverse effects on the nervous system. Anger (1984) also recognized neurotoxic effects as one of the ten leading workplace disorders. In addition, a number of therapeutic substances, including some anticancer and antiviral agents, and abused drugs can cause adverse or neurotoxicological side effects (OTA, 1990). It has been estimated that there is inadequate toxicological information available for more than three-fourths of the 12,860 chemicals with a production volume of one million pounds or more (NRC, 1984). Assuming that up to 25 percent of those chemicals are neurotoxic, approximately 2,500 high-volume agents may have unidentified neurotoxicity (Reiter, 1987).

2.1.2. Examples of Neurotoxicity and Incidents of Exposure

There is a long-standing history associating certain neurological and psychiatric disorders to exposure to a toxin or chemical of an environmental origin (OTA, 1990) (Table 2–1). Lead is one of the earliest examples of a neurotoxic chemical with widespread exposure. This metal is widely distributed with major sources of inorganic lead including industrial emissions, lead-based paints, food, beverages, and the burning of leaded gasolines. Organic lead compounds such as tetraethyl lead have been reported to produce a toxic psychosis (Cassells and Dodds, 1946). At relatively low levels, lead can cause a variety of neurobehavioral problems, learning disorders, and altered mental development (Bellinger et al., 1987; Needleman, 1990). Over the years, Federal government regulations have been developed to decrease human exposure to lead, and an intervention level of 10 μg/dcl while blood has been recommended (CDC, 1991).

TABLE 2–1.—HUMAN NEUROTOXIC EXPOSURES

Year(s)	Location	Substance	Comments
370 B.C.	Greece	Lead	Lead toxicity recognized in mining industry.
1st century A.D.	Rome	Lead	Vapors recognized as toxic.
1837	Scotland	Manganese	Chronic manganese poisoning described
1924	United States (New Jersey).	Tetraethyl lead	Workers suffer neurologic symptoms.
1930	United States (Southeast).	Tri-o-cresyl-phosphate (TOCP).	Chemical contaminant added to Ginger Jake, an alcoholic beverage substitute; more than 5,000 paralyzed, 20,000 to 100,000 affected.
1930's	Europe	Apiol	Drug containing TOCP causes 60 cases of neuropathy.
1932	United States (California).	Thallium	Contaminated barley laced with thallium sulfate poisons family, causing neurologic symptoms.
1937	South Africa	TOCP	Paralysis develops after use of contaminated cooking oil.
1946	England	Tetraethyl lead	Neurologic effects observed in people cleaning gasoline tanks.
1950's	Japan (Minamata)	Methylmercury	Fish and shellfish contaminated with mercury are ingested, causing neurotoxicity.
1950's	France	Organotin	Medication (Stalinon) containing diethyltin diiodide results in poisoning.
1950's	Morocco	Manganese	Miners suffer chronic manganese intoxication.
1956	Turkey	Hexachlorobenzene	Hexachlorobenzene causes poisoning.
1956	Japan	Clioquinol	Drug causes neuropathy.
1959	Morocco	TOCP	Cooking oil contaminated with lubricating oil causes poisoning.
1960	Iraq	Methylmercury	Mercury-treated seed grain causes neurotoxicity.
1964	Japan	Methylmercury	Methylmercury neurotoxicity.
1968	Japan	PCBs	Polychlorinated biphenyls are leaked into rice oil, causing toxicity.
1969	Japan	n-Hexane	Neuropathy due to n-hexane exposure.
1969	United States (New Mexico).	Methylmercury	Fungicide-treated grain results in alkyl mercury poisoning.
1971	United States	Hexachlorophene	Hexachlorophene-containing disinfectant is found to be toxic to nervous system.
1971	Iraq	Methylmercury	Methylmercury used as fungicide to treat seed grain causes poisoning.
1972	France	Hexachlorophene	Hexachlorophene poisoning of children.
1973	United States (Ohio)	Methyl n-butylketone	Fabric production plant employees exposed to MnBK solvent suffer polyneuropathy.
1974–1975	United States (Virginia).	Chlordecone (Kepone)	Chemical plant employees exposed to insecticide suffer severe neurologic problems.
1976	United States (Texas)	Leptophos (Phosvel)	At least nine employees suffer serious neurologic problems after exposure to insecticide.
1977	United States (California).	Dichloro- propene (Telone II).	People hospitalized after exposure to pesticide.
1979–1980	United States (Texas)	2-t-Butylazo-2-hydroxy-5-methyl-hexane (BHMH) (Lucel-7).	Employees of manufacturing plant experience serious neurologic problems.
1980's	United States	Methyl- phenyl-tetrahy- dropyridine (MPTP).	Impurity in synthesis of illicit drug causes Parkinson's disease-like effects.
1981	Spain	Toxic oil	People ingesting toxic substance in oil suffer severe neuropathy.
1985	United States and Canada.	Aldicarb	People experience neuromuscular deficits after ingestion of contaminated melons.

TABLE 2–1.—HUMAN NEUROTOXIC EXPOSURES—Continued

Year(s)	Location	Substance	Comments
1987	Canada	Domoic acid	Ingestion of mussels contaminated with domoic acid causes illness.
1988	India	TOCP	Ingestion of adulterated rapeseed oil causes polyneuritis.
1989	United States	L-tryptophan-containing products.	Ingestion of a chemical contaminant associated with the manufacture of L-tryptophan results in eosinophilia-myalgia syndrome.

Mercury compounds are potent neurotoxic substances and have caused a number of human poisonings, with symptoms of vision, speech, and coordination impairments (Chang, 1980). Erethism, a syndrome with such neurologic features as tremor and behavioral symptoms as anxiety, irritability, and pathologic shyness, is seen in people exposed to elemental mercury (Bidstrup, 1964). One major incidence of human exposure occurred in the mid-1950's when a chemical plant near Minamata Bay, Japan, discharged mercury as part of waste sludge. An epidemic of mercury poisoning developed when the local inhabitants consumed contaminated fish and shellfish. Congenitally affected children displayed a progressive neurological disturbance resembling cerebral palsy and manifested other neurological problems as well. In 1971, an epidemic occurred in Iraq from methylmercury used as a fungicide to treat grain (OTA, 1990).

Manganese is used in metal alloys and has been proposed to replace lead in gasoline. It is an essential dietary substance for normal body functioning yet exposure to elevated levels of manganese is highly toxic and produces a dyskinetic motor syndrome similar to Parkinson's disease (Cook et al., 1974). Exposed miners in several countries have suffered from "manganese madness" characterized by hallucinations, emotional instability, and numerous neurological problems. Long-term manganese toxicity produces muscle rigidity and staggering gait similar to that seen in patients with Parkinson's disease (Politis et al., 1980).

A Parkinsonian-like syndrome was also observed in people who accidentally ingested 1-methyl-4-phenyl-1,2,3,6-tetrahydropyridine (MPTP) (Langston et al., 1983). MPTP was a byproduct of a meperidine derivative sold illicitly as "synthetic heroin."

Organic solvents are encountered frequently in occupational settings. Most solvents are volatile, i.e., they can be converted from a liquid to a gaseous state and readily inhaled by the worker. They are also lipid soluble and readily accumulate in the fat deposits of the exposed organism. An example of a solvent exposure in humans is carbon disulfide. Workers exposed to this solvent were found to have an increased frequency of depression and suicide (Seppalainen and Haltia, 1980). Furthermore, repeated exposure to organic solvents is suspected of producing chronic encephalopathy. Workers exposed to methyl-n-butyl ketone, a dye solvent and cleaning agent, displayed peripheral nervous system neuropathy involving degeneration of nerve fibers (Spencer and Schaumburg, 1980). Solvents including ether, ketones, alcohols, and various combinations are commonly used in glues, cements, and paints and when inhaled can be neurotoxic. Repeated abuse of such solvents can lead to permanent neurological effects due to severe and permanent loss of nerve cells (OTA, 1990).

Pesticides are one of the most commonly encountered classes of neurotoxic substances. These can include insecticides (used to control insects), fungicides (for blight and mildew), rodenticides (for rodents such as rats, mice, and gophers), and herbicides (to control weeds). Active ingredients are combined with so-called inert substances to make thousands of different pesticide formulations. Workers who are overexposed to pesticides may display obvious signs of poisoning, including tremors, weakness, ataxia, visual disturbances, and short-term memory loss (Ecobichon and Joy, 1982). Chlordecone exposure results in nervousness and tremors (Cannon et al., 1978). The organophosphorous insecticides have neurotoxic properties and account for approximately 40 percent of registered pesticides. A delayed neurotoxicity can be seen as a result of exposure to certain organophosphate pesticides, producing irreversible loss of motor function and an associated neuropathology (Ecobichon and Joy, 1982). Organophosphate and carbamate insecticides are known to interfere with a specific enzyme, acetylcholinesterase (AChE) (Davis and Richardson, 1980). Paralysis has also been reported following consumption of nonpesticide organophosphate products such as tri-o-cresylphosphate (TOCP).

Neurotoxicities in humans, domestic livestock, and poultry associated with fungal toxins (mycotoxins) have been well documented (Kurata, 1990; Aibara, 1986; Wyllie and Morehouse, 1978). Mycotoxins not only have a negative economic effect on animal production, but they also represent a definite threat to human health. Mycotoxins occur in forages, field crops, and grains used for livestock; they also are incorporated into cereals, grains, and grain-based products used for human consumption. Therefore, human exposure may occur either through direct consumption of these products or secondarily through consumption of meat, milk, or eggs. An example of human exposure to fungal toxins is *Claviceps purpurea*- or *C. paspali*-infected wheat, barley, and oats used for bread and as a dietary supplement for livestock. These fungal toxins are notorious for producing the gangrenous and convulsive forms of the disease known as "ergotism" (Bove, 1970). These fungi are in the family *Clavicipitaceae* and produce a group of compounds known as ergot alkaloids, which have neurotropic, uterotonic, and vasoconstrictive activities. They may act as dopamine agonists or serotonin antagonists, and also block alpha-adrenergic receptors. Since there are numerous naturally occurring ergot alkaloids, this represents only part of their pharmacopoeia (Berde and Schield, 1978). These alkaloids are highly toxic and cause both acute and chronic poisonings. Although guidelines now limit the amount of *Claviceps*-contaminated, or "ergot"-contaminated, grains, these compounds may enter human food sources through secondary mechanisms. Other fungi associated with ergot-like syndromes in livestock include *Acremonium lolii* (Gallagher et al., 1984) and *A. coenophialum* (Thompson and Porter, 1990).

Cyclopiazonic acid (CPA) is an indole tetramic acid produced by *Aspergillus flavus, A. oryzae, Penicillium cyclopium,* and *P. camemberti*. This mycotoxin is suspected of causing "kodua poisoning" in humans who consumed kodo millet seed in India

(Rao and Husain, 1985). *Fusarium moniliforme* is a common fungal infection in corn (Bacon et al., 1992) and directly related to neurotoxic syndrome in horses known as equine leukoencephalomalaisia (ELEM).

Natural plant toxins also represent a health risk to both livestock and humans. Movement toward limited uses of herbicides, fungicides, and no-till agricultural practices increases the possibility of noxious weeds and weed seeds being incorporated into food products. Ergot alkaloids also are produced by morning glories (*Ipomea violacea*) and may be incorporated into soybeans, corn, peas, etc., during harvest. Export regulations limit morning glory-contaminated soybeans because of the hallucinogenic and other effects produced by ergot alkaloids. Jimson weed (*Datura stramonium*), another weed incorporated into agricultural commodities, produced scopolamine, hyocyamine, and stropine, all of which have parasympatholytic (anticholinergic) activities.

Recently, an outbreak of toxic encephalopathy caused by eating mussels contaminated with domoic acid, an excitotoxin, was reported (Perl et al., 1990).

2.1.3. Federal Response

In the United States, several agencies, including EPA, FDA, OSHA, CPSC, and ATSDR, have been given the mandate to regulate or evaluate public exposure to toxic chemicals (Tilson, 1989).

2.1.3.1. *Food and Drug Administration.* The FDA has the authority to regulate the use of food and color additives as well as to determine whether or not various foods are unsafe for human consumption because of adulteration by environmental contaminants. The manufacturer must supply adequate data to establish the safety of the food additives. Before marketing approval, the potential toxicity of proposed food and color additives is established in a battery of animal toxicity studies. During all of these studies, clinical signs of toxicity, including abnormal behavior, are monitored and abnormalities recorded. At the termination of these studies, tissues from all organs, including the brain, are sectioned and evaluated for both gross and histopathological changes, in addition to being evaluated for their clinical chemistry and hematology. None of the routinely required tests is specifically designed to assess neurotoxicity. If neurotoxic effects are detected during any of the standard toxicity tests, however, they must be reported. Specific neurotoxicity testing may then be required. The FDA is currently revising its guidelines for the safety assessment of direct food and color additives to include neurotoxicity as a routine element in toxicological testing.

The FDA also is authorized to regulate substances in food considered to be poisonous or deleterious. Unavoidable environmental contaminants in food fall into this category. The FDA determines a level at which the risk of exposure to the contaminant is acceptable. Based on this risk assessment, an action level or tolerance is established. Once the action level or tolerance is formally established, the FDA may take appropriate action to restrict adulterated food from the market if these standards are exceeded.

The FDA is responsible for assessing the toxicity of human therapeutic products. Many products have been shown to produce adverse effects on the nervous system at standard therapeutic doses as well as at higher doses. Before marketing approval is given, the toxicity of potential new products is assessed. A battery of animal toxicity study parameters relevant to the nervous system, including gross behavioral observation and gross and histopathological examination of the nervous tissue, are evaluated. This information is used to help guide the surveillance of human subjects for adverse effects that are assessed during clinical trials.

2.1.3.2. *Occupational Safety and Health Administration.* OSHA has been given the responsibility to ensure that the working environment is a safe and healthy place of employment. In the early 1970's, OSHA adopted the existing Federal standards, most of which were developed under the Walsh-Healy Act (including the 1968 ACGIH Threshold Limit Values), and approximately 20 consensus standards of the American National Standards Institute (ANSI) as Permissible Exposure Limits (PELs). Of the 393 remaining original PELs, 145 were set in part to protect the individual from neurotoxic effects.

Since the adoption of the initial standards, OSHA has issued new or revised health standards or work practices for 23 substances. Of these, the one concerning lead was based on nervous system effects. Four other compounds, inorganic arsenic, acrylonitrile, ethylene oxide, and 1,2-dibromo-3-chloropropane, were cited as causing various disturbances in the nervous system, but the standards for these were based primarily on carcinogenic effects.

In 1989, OSHA updated 428 exposure limits for air contaminants. Of these, 25 substances were categorized by OSHA as "substances for which limits are based on avoidance of neuropathic effects." In addition, 24 substances were included in the category "substances for which limits are based on avoidance of narcosis." However, OSHA stated that the categorization was intended as a tool to manage the large number of substances being regulated and not to imply that the category selected identified the most sensitive or the exclusive adverse health effects of that substance.

2.1.3.3. *National Institute for Occupational Safety and Health.* The Occupational Safety and Health Act established NIOSH as a Public Health Service (PHS) agency to develop and recommend criteria for prevention of disease and hazardous conditions in the workplace. NIOSH also performs research on occupational health issues and conducts worksite evaluations of suspected hazards. OSHA and the Mine Safety and Health Administration (MSHA) use NIOSH recommendations in the promulgation of new or revised health and safety standards.

In establishing recommended exposure limits (RELs) for chemicals, NIOSH examines all relevant scientific information about a given compound and attempts to identify exposure limits that will protect all workers from adverse effects. NIOSH has recommended standards for approximately 644 chemicals or classes of chemicals. For 214 (33 percent) of these, neurotoxicity was cited as a health effect considered when formulating the REL (NIOSH, 1992).

2.1.3.4. *Environmental Protection Agency.* The Toxic Substances Control Act (TSCA) and the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) provide the legislative authority for EPA to require data collection for premarket approval of chemicals. Under section 5 of TSCA, after a manufacturer has notified EPA of its plans to produce a "new" chemical that has not yet been listed on the inventory, EPA has the responsibility to assess possible health hazards. Potential neurotoxicity is included in the health hazards assessment. If there are reasons to suspect neurotoxicologic effects (e.g., from structure-activity analysis, information in the literature, or data submitted by the manufacturer), EPA can issue a test rule requiring the manufacturer to develop data directed toward these effects. At the same time, EPA can restrict the chemical or prohibit it entirely from entering commerce until the required data are submitted and reviewed. In addition, for "old" chemicals (under section 4 of TSCA), if EPA suspects neurotoxicity, a

test rule would be the mechanism used for obtaining the data. Many other statutes provide authority to regulate chemicals through the setting of standards, including the Clean Air Act, Clean Water Act, and Safe Drinking Water Act.

Neurotoxicity is recognized as a health effect of concern under FIFRA, and there are neurotoxicity testing requirements for premarketing submission of data to EPA for registration of a pesticide under FIFRA.

2.1.3.5. *Consumer Product Safety Commission.* The CPSC is an independent Federal regulatory agency with jurisdiction over most consumer products. Most chemical hazards are regulated under the Federal Hazardous Substances Act (FHSA) administered by CPSC. The FHSA requires appropriate cautionary labeling on all hazardous household products (hazards include chronic toxicity such as neurotoxicity). While the FHSA does not require premarket registration, a manufacturer is required to assess the hazards of a product prior to marketing and assure that it is labeled with all necessary cautionary information. The FHSA also bans children's products that are hazardous and provides the CPSC with the authority to ban other hazardous products.

2.1.3.6. *Agency for Toxic Substances and Disease Registry.* ATSDR has a mission to prevent or mitigate adverse effects to both human health and the quality of life resulting from exposure to hazardous substances in the environment. The ATSDR publishes a National Priority List (NPL) of hazardous substances that are found at National Priority Waste Sites. The order of priority is based on an algorithm, taking into consideration frequency with which substances are found at NPL sites, toxicity, and potential for human exposure; this list is reranked on a yearly basis. So far, 129 toxicological profiles have been developed for the priority hazardous substances, and 92 substances have a profile with a neurological health effect endpoint (HAZDAT, 1992). Neurotoxicity has been selected by the ATSDR to be one of the seven high-priority health conditions resulting from exposure to environmental toxicants.

2.2. Basic Toxicological Considerations for Neurotoxicity

2.2.1. Basic Toxicological Principles

A chemical must enter the body, reach the tissue target site(s), and be maintained at a sufficient concentration for a period of time in order for an adverse effect to occur. Not all chemicals have the same level of toxicity; some may be very toxic in small amounts while others may have little effect even at extremely high amounts. Thus, the dose-response relationship is a major concept in determining the toxicity of a specific substance. Other factors in determining toxicity include the physical and chemical properties of the substance, the route and level of exposure, the susceptibility of the target tissue, and the health, gender, and age of the exposed individual.

Once the toxic substance has entered the body, usually through the lungs (inhalation), the skin (absorption), or the gastrointestinal tract (ingestion), it is partitioned into various body tissues where it can act on its target sites. The substance is eliminated from the bloodstream by the process of accumulation into the various sites in the body, with the liver and kidney being major sites of accumulation of toxic substances. This is thought to be associated with these organs' large blood capacity and major role in elimination of substances from the body. Lipophilic chemicals accumulate in lipid-rich areas of the body and present a significant potential problem for the nervous system. The nervous system is unique in its high percentage content of lipid (50 percent of dry weight) and may be particularly vulnerable to such chemicals. The site or sites of accumulation for a specific toxic substance may or may not be the primary sites of action. Examples include two known neurotoxicants, carbon monoxide in the red blood cells and lead in the bone. It must be noted that some substances are not distributed throughout the body, partially as a function of their insolubility, polarity, or molecular weight.

The effect that a substance has will generally depend on the body burden or level in the tissue and duration of exposure. The time course of the levels is determined by several factors, including the amount at time of exposure, duration of exposure, and metabolic fate of the chemical. The study of such metabolic processes, pharmacokinetics, has demonstrated complex patterns in the absorption, distribution, possible biotransformation, and elimination of various substances (Klaassen, 1980).

Many substances are removed by the kidney and excreted through the urine. The liver can detoxify substances like organic lead, which are excreted from the liver into the bile and then the small intestines, bypassing the blood and kidney. Lipophilic toxic substances are primarily removed from the body through feces and bile, and water-soluble metabolites are removed in the urine, through the skin, and through expiration into the air.

Biotransformation is a biochemical process that converts a substance into a different chemical compound, allowing it to be excreted more easily. Substances are more easily removed if they are biotransformed into a more hydrophilic compound. Biotransformation can either aid in the detoxification of a substance or produce a more toxic metabolite. Therefore, the original substance may not be the substance that is producing the toxicity on the nervous system or any other system. Thus, several factors must be taken into consideration when evaluating the potential neurotoxicity of a chemical. They include the pharmacokinetics of the parent compound, the target tissue concentrations of the parent chemical or its bioactivated proximate toxicant, the uptake kinetics of the parent chemical or metabolite into the cell and/or membrane interactions, and the interaction of the chemical or metabolite with presumed receptor sites.

2.2.2. Basic Neurotoxicological Principles

Neurotoxicity can be manifest as a structural change or a functionally adverse response of the nervous system to a chemical, biological, or physical agent (Tilson, 1990b). It is a function of both the property of the agent and a property of the nervous system itself. Neurotoxicity refers broadly to the adverse neural responses following exposure to external, extragenetic factors (e.g., occupational exposures, lifestyle, exposure to pharmaceuticals, foods, radiation, and chemicals) (Tilson, 1990b). Adverse effects can include both unwanted effects and any alteration from baseline that diminishes the ability to survive, reproduce, or adapt to the environment. Neuroactive substances may also impair health indirectly by altering behavior in such a way that safety is decreased in the performance of numerous activities. Toxicity can occur at any time in the life cycle, from conception through senescence, and its manifestations can change with age. The range of responses can vary from temporary responses following acute exposures to delayed responses following acute or chronic exposure to persistent responses. Neurotoxicity may or may not be reversible following cessation of exposure. The responses may be graded from transient to fatal and there may be different responses to the same neurotoxicant at different dose levels but similar responses to exposure to different agents. Displays of a

neurotoxic response may be progressive in nature, with small deficits occurring early in exposure and developing to become more severe over time. Expression of neurotoxicity can encompass multiple levels of organization and complexity including structural, biochemical, physiological, and behavioral measurements.

Caution must be exercised in labeling a substance neurotoxic. The intended use and effect of the chemical, as well as the dose and exposure, must be taken into consideration. A substance that may be neurotoxic at a high concentration may be safe and beneficial at a lower concentration. For example, vitamin A, vitamin B6, and manganese are required in the diet in trace amounts, yet all result in neurotoxicity when consumed in large quantities. Pharmaceutical agents may also have adverse effects at high dose levels or where the beneficial effects outweigh the adverse side effects. For example, antipsychotic drugs have allowed many people suffering from schizophrenia to lead relatively normal lives; however, chronic prescribed use of some of these drugs may result in severe tardive dyskinesia characterized by involuntary movements of the face, tongue, and limbs. Other examples include toxic neuropathies induced by chemotherapeutic agents like cis-platinum, toxic anticholinergic effects of high doses of tricyclic antidepressants, disabling movement disorders in patients treated with anti-Parkinsonian agents and major tranquilizers, and hearing loss and balance disruption triggered by certain antibacterials (Sterman and Schaumburg, 1980). Drugs of abuse such as ethanol also have neurotoxic potential. Opiates such as heroin may lead to dependence, which is considered to be a long-term adverse alteration of nervous system functioning. Simultaneous exposure to drugs or toxic agents may produce toxic interactions either in the environment or occupational settings. For example, exposure to noise and certain antibiotics can exacerbate the loss of hearing function (Boettcher et al., 1987; Lim, 1986; Bhattacharyya and Dayal, 1984).

The nervous system is a highly complex and integrated organ. It is possible that nonlinear dose-response relationships or a threshold effect could exist for some chemicals. It has been hypothesized that the nervous system has a reserve capacity that masks subtle damage and any exposure that does not overcome this reserve capacity may not reach the threshold and no observable impairment will be evident (Tilson and Mitchell, 1983). However, the functional reserve may be depleted over time and the manifestations of toxicity may be delayed in relationship to the exposure. The reserve may be depleted by a number of factors including aging, stress, or chronic exposure to an environmental insult, in which case functioning will eventually be impaired and toxicity will become apparent. If a number of events occur simultaneously, the response is progressive in nature, or there is a long latency between exposure and manifestation of toxicity, the identification of a single cause of the functional impairment may not be possible.

2.3. Basic Neurobiological Principles

2.3.1. Structure of the Nervous System

The nervous system is composed of two parts: the central nervous system (CNS) and the peripheral nervous system (PNS) (Spencer and Schaumburg, 1980). Within the nervous system, there exist predominantly two general types of cells—nerve cells (neurons) and glial cells. Neurons have many of the same structures found in every cell of the body; they are unique, however, in that they have axons and dendrites, extensions of the neuron along which nerve impulses travel. The structure of the neuron consists of a cell body, 10 to 100 μm in diameter, containing a nucleus and organelles for the synthesis of various components necessary for the cell's functioning, e.g., proteins and lipids. There are numerous branch patterns of elongated processes, the dendrites, that emanate from the cell body and increase the neuronal surface area available to receive inputs from other sources. Neurons communicate with each other by releasing chemical signals onto specific surface regions, receptors, of the other neuron. The axon is a process specialized for the conduction of nerve impulses away from the cell toward the terminal synapses and eventually toward other cells (neurons, muscle cells, or gland cells).

Neurons are responsible for the reception, integration, transmission, and storage of information (Raine, 1989). Certain nerve cells are specialized to respond to particular stimuli. For example, chemoreceptors in the mouth and nose send information about taste and smell to the brain. Cutaneous receptors in the skin are involved in the sensation of heat, cold, and touch. In the retina, the rods and cones sense light. In general, the length of the axon is tens to thousands of times greater than the cell body diameter. For example, the cell body whose processes innervate the muscles in the human foot is found in the spinal cord at the level of the middle back. The axons of these cells are more than a meter in length. Many, but not all, axons are surrounded by the layers of membrane from the cytoplasmic process of glial cells. These layers are called myelin sheaths and are composed mostly of lipid. In the PNS, the myelin sheaths are formed by Schwann cells, while in the CNS the sheaths are formed by the oligodendroglia. The myelin sheath formed by one glial cell covers only a short length of the axon. The entire length of the axon is ensheathed in myelin by numerous glial cells. Between adjacent glial sheaths, a very short length of bare axon exists called the node of Ranvier. In unmyelinated axons, a nerve impulse must travel in a continuous fashion down the entire length of the nerve. The presence of myelin accelerates the nerve impulse by up to 100 times by allowing the impulse to jump from one node to the next in a process called "saltatory conduction."

The nerve cells of the PNS are generally found in aggregates called ganglia. The brain and spinal cord make up the CNS and the neurons are segregated into functionally related aggregates called nuclei. They synthesize and secrete neurotransmitters, which are specialized chemical messengers that interact with receptors of other neurons in the communication process. Various nuclei together with the interconnecting bundles of axonal fibers are functionally related to one another to form higher levels of organization called systems. For example, there is the motor system, the visual system, and the limbic system. At the base of the brain, several small nuclei in the hypothalamus form the neuroendocrine system, which plays a critical role in the control of the body's endocrine (hormone-secreting) glands. Nerve cells in the hypothalamus secrete chemical messengers into a short loop of blood vessels that carries the messengers to the pituitary gland which, in turn, releases chemical messengers into the general circulation. These pituitary messengers regulate other glands (e.g., the thymus and the gonads). The entire system maintains a state of optimal physiological function for all of the body's organ systems.

2.3.2. Transport Processes

All types of cells must transport proteins and other molecular components from their site of production near the nucleus to the other sites in the cell (Hammerschlag and Brady, 1989). Neurons are unique in that the neuronal cell body must maintain not only the functions normally associated with its own support, but it must also provide

support to its various processes. This support may require transport of material over relatively vast distances. Delivery of necessary substances by intracellular transport down the axon (axonal transport) represents a supply line that is highly vulnerable to interruption by toxic chemicals. In addition, the integrity of the function of the neuronal cell body is often dependent on a supply of trophic factors from the cells that it innervates. These factors are continually supplied to the neural cells by the process of retrograde axonal transport, often as a process of normal exchange between two or more cells. They play a significant factor in the normal growth and maintenance of the neural cells, and a continual supply of certain trophic factors is necessary for cell functioning.

The majority of axonal transport occurs along longitudinally arranged fiber tracks called neurofilaments. This movement along neurofilaments requires energy in the form of oxidative metabolism. Toxicants that interfere with this metabolism or that disrupt the spatial arrangement or production of neurofilaments may block axonal transport and can produce neuropathy (Lowndes and Baker, 1980). This can been seen following exposure to many substances, such as n-hexane and methyl n-butyl ketone as well as the drugs vincristine, vinblastine, and taxol. Acrylamide produces a dying-back axonopathy but by an alternative mechanism involving altered axonal transport.

2.3.3. Ionic Balance

The axonal membrane is semipermeable to positively and negatively charged ions (mostly potassium, sodium, and chloride) within and outside of the axon. There are several enzyme systems that maintain an ionic balance that changes following depolarization of the membrane (Davies, 1968). This is maintained only by the continual active transport of ions across the membrane, which requires an expenditure of energy. The nerve impulse is a traveling wave of depolarization normally originating from the cell body; however, in sensory neurons it originates at the terminal receptive end of specialized axons (Davies, 1968). The wave is continued by openings in the membrane that allow ions to rush into the axon. This sudden change in the charge across the axon's membrane is the nerve impulse. It is an amplified depolarization that reaches the threshold value and spreads down the axon from one length to another until the next length of membrane reaches the threshold value. It continues in this fashion until it reaches the synaptic terminal regions. There are a number of varieties of membrane channels (e.g., calcium) that rapidly open and close during impulse generation; the common ones are the sodium and potassium channels. They are very small and allow only ions of a certain size to pass. Several classes of drugs (e.g., local anesthetics) and natural toxins (e.g., tetrodotoxin) inhibit nerve impulse conduction by blocking these channels.

2.3.4. Neurotransmission

The terminal branches of the axon end in small enlargements called synaptic "boutons." It is from these boutons that chemical messengers will be released in order to communicate with the target cell at the point of interaction, the synapse (Hammerschlag and Brady, 1989). When the nerve impulse reaches the terminal branches of the axon, it depolarizes the synaptic boutons. This depolarization causes the release of the chemical messengers (neurotransmitters and neuromodulators) stored in vesicles in the axon terminal (Willis and Grossman, 1973). Classical neurotransmitters include serotonin, dopamine, acetylcholine, and norepinepharine and are typically secreted by one neuron into the synaptic cleft where they are on the postsynaptic membrane. Neuropeptides, however, may travel long distances through the bloodstream to receptors on distant nerve cells or in other tissues. Following depolarization, the amount of secretion is dependent on the number of nerve impulses that reach the synaptic bouton, i.e., the degree of depolarization. The chemical messengers diffuse across the synaptic cleft or into the intraneuronal space and bind to receptors on adjacent nerve cells or effector organs, thus triggering biochemical events that lead to electrical excitation or inhibition.

When information is transmitted from nerves to muscle fibers, the point of interaction is called the neuromuscular junction and the interaction leads to contraction or relaxation of the muscle. When the target is a gland cell, the interaction leads to secretion. Synaptic transmission between neurons is slightly more complicated, but still dependent on the opening and closing of ion channels in the membrane. The binding of the messenger to the receptor of the receiving cell can lead to either the excitation or inhibition of the target cell. At an excitatory synapse, the neurotransmitter-receptor interaction leads to an opening in certain ion-specific channels. The charged ions that move through these opened chambers carry a current that serves to depolarize the cell membranes. At inhibitory synapses, the interaction leads to an opening in a different type of ion-specific channel that produces an increase in the level of polarization (hyperpolarization). The sum of all the depolarizing and hyperpolarizing currents determines the transmembrane potential and when a threshold level of depolarization is reached at the axon's initial segment, a nerve impulse is generated and begins to travel down the axon.

The duration of neurotransmitter action is primarily a function of the length of time it remains in the synaptic cleft. This duration is very short due to specialized enzymes that quickly remove the transmitter either by degrading it or by reuptake systems that transport it back into the synaptic bouton. A toxic substance may disrupt this process in several different ways. It is important that the duration of the effect of synaptically released chemical messengers be limited. Some neurotoxicants, e.g., cholinesterase-inhibiting organophosphorous pesticides, inhibit the enzyme (AChE), which serves to terminate the effect of the neurotransmitter (acetylcholine) on its target. The result is an overstimulation of the target cell. Other substances, particularly biological toxins, are able to interact with the receptor molecule and mimic the action of the neurotransmitter. Some toxic substances, like neuroactive pharmaceuticals, may interfere with the synthesis of a particular neurotransmitter, while others may block the neurotransmitter's access to its receptor molecule.

2.4. Types of Effects on the Nervous System

The normal activity of the nervous system can be altered by many toxic substances. A variety of adverse health effects can be seen ranging from impairment of muscular movement to disruption of vision and hearing to memory loss and hallucinations (WHO, 1986; Anger, 1984, 1990). Toxic substances can alter both the structure and the function of cells in the nervous system. Structural alterations include changes in the morphology of the cell and its subcellular structures. In some cases, agents produce neuropathic conditions that resemble naturally occurring neurodegenerative disorders in humans (Calne et al., 1986). Cellular alterations can include the accumulation, proliferation, or rearrangement of structural elements (e.g., intermediate filaments, microtubules) or organelles

(mitochondria) as well as the breakdown of cells. By affecting the biochemistry and/or physiology of a cell, a toxic substance can alter the internal environment of any neural cell. Intracellular changes can result from oxygen deprivation (anoxia) because neurons require relatively large quantities of oxygen due to their high metabolic rate.

Many times the response of the nervous system to a toxic substance can be a slow degeneration of the nerve cell body or axon that may result in permanent neuronal damage. Substances can act as a cytotoxicant after having been transported into the nerve terminal. A complete loss of nerve cells can occur following exposure to a number of toxic substances. Sensory nerve cells may be lost following treatment with megavitamin doses of vitamin B6; hippocampal neurons undergo degeneration with trimethyltin and trimethyl lead poisoning; motor nerve cells are affected in cycad toxicity, which has been loosely linked to Guam-ALS-Parkinsonism dementia. Acute carbon monoxide poisoning can produce a delayed, progressive deterioration over a period of weeks of portions of the nervous system that may lead to psychosis and death. Substances such as mercury and lead cause degeneration of the central nervous system. In children, mercury intoxication can cause degeneration of neurons in the cerebellum and can lead to tremors, difficulty in walking, visual impairment, and even blindness. Lead affects the cortex of the immature brain, resulting in mental retardation.

At the cellular level, a substance might interfere with cellular processes like protein synthesis, leading to a reduced production of neurotransmitters and brain dysfunction (Bondy, 1985). Nicotine and some insecticides mimic the effects of the neurotransmitter acetylcholine. Organophosphorous compounds, carbamate insecticides, and nerve gases act by inhibiting AChE, the enzyme that inactivates the neurotransmitter acetylcholine. This results in a buildup of acetylcholine and can lead to loss of appetite, anxiety, muscle twitching, and paralysis. Amphetamines stimulate the nervous system by releasing and blocking reuptake of the neurotransmitters norepinephrine and dopamine from nerve cells. Cocaine affects the release and reuptake of norepinephrine, dopamine, and serotonin. Both drugs can cause paranoia, hyperactivity, aggression, high blood pressure, and abnormal heart rhythms. Opium-related drugs such as morphine and heroin act at specific opioid receptors in the brain, producing sedation, euphoria, and analgesia. They also tend to slow the heart rate and cause nausea, convulsions, and slow breathing patterns. Other substances can alter the synthesis and release of specific neurotransmitters and activate their receptors in specific neuronal pathways. They may perturb the system by overstimulating receptors, blocking transmitter release and/or inhibiting transmitter degradation, or blocking reuptake of neurotransmitter precursors.

Also at the cellular level, the flow of ions such as calcium, sodium, and potassium across the cell membrane may be changed and the transmission of information between nerve cells altered. A substance may interfere with the ionic balance of a neuron. Organophosphate and carbamate insecticides produce autonomic dysfunction and organochlorine insecticides increase sensorimotor sensitivity, produce tremors and in some cases cause seizures and convulsions (Ecobichon and Joy, 1982). Lindane, DDT, pyrethroids, and trimethyltin also produce convulsions. Conversely, solvents act to raise the threshold for eliciting seizures or act to reduce the severity or duration of the elicited convulsions.

The role of excitatory amino acid (EAA)-mediated synaptic activation is critical for normal function of the CNS. Because endogenous EAA-mediated synaptic transmission is a widespread excitatory system in the brain and is involved in the process of learning and memory, the issue of the effects of endogenous and exogenous EAA-related toxicity has broad implications for both CNS morbidity and mortality in humans. Much of the injury and neuronal death associated with toxicity is mediated by receptors for excitatory amino acids, especially glutamic acid. When applied in sufficient excess from either endogenous or exogenous sources, EAAs have profound neurotoxic effects that can result in the destruction of neurons and, as a consequence, lead to acute phase confusion, seizures, and generalized weakness or to persistent impairments such as memory loss (Choi, 1988).

A final common path in the activation of these receptor classes is an increase in free cytosolic Ca^{++} that can result in the release and activation of intracellular enzymes (which break down the cytoskeleton) and in further release of glutamate, both of which can be cytotoxic (Choi, 1988). Critical to an understanding of the etiopathology associated with at least some of the neurotoxic degeneration may be the link that impaired energy metabolism could have with excitotoxic neuronal death. It is likely that reduced oxidative metabolism results in the partial depolarization of resting membrane potential, the activation of ionotropic membrane receptor/channels, and the influx of Ca^{++} or its release from intracellular stores.

The nervous system is dependent on an extensive system of blood vessels and capillaries to deliver large quantities of oxygen and nutrients as well as to remove toxic waste products. Damage to the capillaries in the brain can lead to the swelling characteristic of encephalopathy. This can be seen following exposure to lead. Other metals (e.g., cadmium, thallium, and mercury) and organotin (e.g., trimethyltin) cause rupturing of vessels that can also result in encephalopathy.

One large aspect of function that may be affected by neurotoxicants is behavior, which is the product of various sensory, motor, and associative functions of the nervous system. Neurotoxic substances can adversely affect sensory or motor functions, disrupt learning and memory processes, or cause detrimental behavioral effects; however, the underlying mechanisms for these effects have yet to be determined. Although changes may be subtle, the assessment of behavior may serve as a robust means of monitoring the well-being of the organism (Tilson and Cabe, 1978).

2.5. Special Considerations

2.5.1. Susceptible Populations

Everyone is at a certain level of risk of being adversely affected by neurotoxic substances. Individuals of certain age groups, health states, and occupations, however, may be at a greater level of risk. Fetuses, children, the elderly, workers in occupations involving exposure to relatively high levels of toxic chemicals, and persons who abuse drugs are among those in high-risk groups. Neurotoxic substances may exacerbate existing neurological or psychiatric disorders in a population. Confounded in all of these groups is the role that nutrition plays in the response of the organism to exposure. Both general nutritional status and specific nutritional deficiencies (for example, protein, iron, and calcium) can significantly influence the response to a toxic substance.

It is widely accepted that during development adverse effects can result from exposure to chemicals at lower levels than would be necessary for the average adult (Suzuki, 1980). The developing nervous system appears to be particularly vulnerable to some kinds

of damage (Cushner, 1981; Pearson and Dietrich, 1985; Annau and Eccles, 1986; Hill and Tennyson, 1986; Silbergeld, 1986). During the developmental period, the nervous system is actively growing and establishing intricate cellular networks. Both the blood-brain and blood-nerve barriers that will eventually protect much of the adult brain, spinal cord, and peripheral nerves are incomplete. The protective mechanisms by which the organism deals with toxic substances, such as the detoxification systems, are not fully developed. Exposure to chemicals during development can result in a range of effects. At the highest exposure, effects include death, gross structural abnormalities, or altered growth. Larger populations are generally exposed to more moderate levels resulting in more subtle functional impairments. The qualitative nature of some injuries during development may differ from those seen in the adult, such as changes in tissue volume, misplaced or misoriented neurons, or delays or acceleration of the appearance of functional or structural endpoints (Rodier, 1986). In many cases, the results of early injuries may become evident only as the nervous system matures and ages (Rodier, 1990). There are several instances in which functional alterations have resulted from exposure during the period between conception and sexual maturity (Riley and Vorhees, 1986; Vorhees, 1987).

Early exposure to relatively low levels of lead can result in reduced scores on tests of mental development (Bellinger et al., 1987; Needleman, 1990). Early gestational exposure to neurotoxicants such as cocaine can produce long-term neurobehavioral abnormalities (Anderson-Brown et al., 1990; Hutchings et al., 1989); heavy alcohol exposure produces craniofacial abnormalities and mental retardation (Jones and Smith, 1973), while moderate levels of alcohol consumption during gestation can delay motor development (Little et al., 1989).

With aging, the level of risk for a number of health-related factors increases as well as the risk for toxic perturbations to the nervous system (Weiss, 1990). With increasing age comes a decreased ability of the nervous system to respond to adverse events or to compensate for either biological, physical, or toxic effects. At the tissue and cellular level, the aging process results in nerve cell loss, neurofibrillary tangles (abnormal accumulation of certain filamentous proteins), and neuritic plaques (abnormal clusters of proteins and other substances near synapses). As the cells die, the complex neuronal circuitry of the brain becomes impaired. Neurotransmitter concentrations and the enzymes involved in their synthesis are altered. Some axons gradually lose their myelin sheath, resulting in a slowed conduction of nerve impulses along the axon. With age, not only might the nervous system become more susceptible to new insults, but the effects of previous exposures also may become evident, with a diminished capacity for compensation. The increased incidence of multiple drug-taking in the elderly population also can lead to interactions, either drug/drug or drug/chemical, which can adversely affect the nervous system. Nutritionally, the aged experience increased incidences of both general undernutrition and deficits of specific nutrients such as iron or calcium, which can influence the response to toxic substances.

In the geriatric population, the clinical manifestation of neurodegenerative disorders may have a contributing component of past exposures to environmental chemical agents. Calne et al. (1986) hypothesized that various agents contribute to Alzheimer's disease, Parkinson's disease, or amyotrophic lateral sclerosis (ALS, motoneurone disease, or Lou Gehrig's disease) by depleting neuronal reserves to an extent that perturbations become observable in the context of the natural aging process. B-N-methylamino-L-alanine, from the seed of the false sago palm (Cycas circinalis L.), has been reported to induce a form of amyotrophic lateral sclerosis (Spencer et al., 1987). The incidence of Parkinson's disease has been correlated with exposure to pesticides, especially pyridines such as the herbicide paraquat (Barbeau et al., 1987). Alzheimer-type syndromes have been reported in individuals occupationally exposed to organic solvents or metal vapors (Freed and Kandel, 1988). Similarities have been drawn between Alzheimer's disease and aluminum intoxication (Yokel et al., 1988).

At any age, preexisting physical as well as mental disorders of the individual may play a significant role in the manifestation of a toxic response following exposure to a potentially toxic substance. Both types of disorders compromise the system in some way so that either the defense mechanisms of the organism are not able to deal with the toxic substance or are not able to repair themselves quickly. In addition to the basic altered biology, for individuals with a physical or mental disorder who are under some form of medical intervention, the combination of therapeutic drugs and toxic substances may have an interactive effect on the nervous system. For example, due to the delicate electrochemical balance of the nervous system, mental disorders may be exacerbated by exposure to a toxic substance.

2.5.2. Blood-Brain and Blood-Nerve Barriers

The bioavailability of a specific chemical to the nervous system is a function of both the target tissue and the chemical. The brain, spinal cord, and peripheral nerves are surrounded by a series of semipermeable tissues referred to as the blood-brain and blood-nerve barriers (Katzman, 1976). In the central nervous system, the blood-brain barrier is composed of tight junctions formed by endothelial cells and astrocytes. These tight junctions and cellular interactions forming the barrier restrict the free passage of most bloodborne substances. By doing this, they create a finely controlled extracellular environment for the nerve cells. Certain regions of the brain and nerves are directly exposed to chemicals in the blood because the barrier is not present in some areas of the nervous system. For example, it is absent in the circumventricular area, around the dorsal root ganglion in the peripheral nervous system, and around the olfactory nerve, which may allow chemicals to penetrate directly from the nasal region to the frontal cortex.

The existence of these blood-brain and blood-nerve barriers suggests that proper functioning of the nervous system is dependent on control of the substances to which nerve cells are exposed. The term "barrier," however, is somewhat of a misnomer. Although water-soluble and polar compounds enter the brain poorly, lipophilic substances readily cross the barrier. In addition, a series of specific transport mechanisms exist through which required nutrients (hormones, amino acids, peptides, proteins, fatty acids, etc.) reach the brain (Pardridge, 1988). If toxicants are lipid soluble or if they are structurally similar to substances that are normally transported into the brain, they can achieve high concentrations in brain tissue. It has been proposed that the increased vulnerability of the developing nervous system to toxicant exposure may be due to a barrier that is less effective than that present in an adult in preventing passage of substances into the nervous system.

2.5.3. Metabolism

The central nervous system has a very high metabolic rate and, unlike other organs, the brain depends almost

entirely on glucose as a source of energy and raw material for the synthesis of other molecules (Damstra and Bondy, 1980). The absence of an alternative energy source makes the CNS critically dependent on an uninterrupted supply of oxygen as well as the proper functioning of enzymes that metabolize glucose. Substances can be toxic to the nervous system if they perturb neuronal metabolism. Without glucose, nerve cells usually begin to die within minutes. Despite its relatively small size, the energy demands of the brain require 14 percent of the heart's output and consumes about 18 percent of the oxygen absorbed by the lungs.

2.5.4. Limited Regenerative Ability

The nervous system has a combination of special features not found in other organ systems. It is composed of a variety of metabolically active neurons and supporting cell types that interact through a multitude of complex chemical mechanisms. Each cell type has its own functions and vulnerabilities. At the time of puberty, the system is fully developed and neurogenesis (the birth of new neurons from cell division of precursor cells called neuroblasts) ceases. This is in marked and significant contrast to all other tissues, where cell replacement is continual.

It is this loss of neurogenesis that limits the nervous system's ability to recover from damage and influences the plasticity of the system. Neurons are unable to regenerate following damage; therefore, they are no longer able to perform their normal functions. Toxic damage to the brain or spinal cord that results in cell loss is usually permanent. If nerve cell loss is concentrated in one of the CNS's functional subsystems, the outcome could be debilitating; for example, a relatively small loss of neurons that use acetylcholine as their neurotransmitter may produce a profound disturbance of memory. A relatively minor insult concentrated in a subsystem that relies on dopamine as its neurotransmitter may drastically impair motor coordination. However, in response to injury, neurons are able to show considerable plasticity both during development and after maturation. Damage to the nervous system alters connectivity between the surviving neurons, permitting functional adjustments to occur to compensate for the damage. Such responsiveness may, in and of itself, have profound consequences for neurological, behavioral, and related body functions.

After damage to axons in the peripheral nerves, if the neurons are not damaged, the axons have the ability to regenerate and to attempt to reach their original target site. This is the basis, for example, of the eventual return of sensation and muscle control in a surgically reattached limb. Neurons in the CNS also have the ability to regenerate interrupted axons; however, they have a much more difficult task in reaching their original targets due to both the presence of scar tissue formed by proliferating glia and to the increased complexity of the connectivity in the CNS.

3. Methods for Assessing Human Neurotoxicity

3.1. Introduction

This chapter outlines and discusses current methods for detecting neurotoxicity in humans. In contrast to studies of neurotoxicity in animals where functional changes readily can be correlated with neuroanatomic and neurochemical alterations, there are ethical and technical barriers to the direct observation of neuronal damage in humans. Neurotoxicity in humans is most commonly measured by relatively noninvasive neurophysiologic and neurobehavioral methods that assess cognitive, affective, sensory, and motor function. The evaluation of human neurotoxicity and the relevance to risk assessment will be discussed within the context of clinical evaluation, epidemiologic/worksite studies, and human laboratory exposure studies.

3.2. Clinical Evaluation

Neurobehavioral assessment methods are used extensively in clinical neurology and neuropsychology to evaluate patients suspected of having neurologic disease. An extensive array of examiner-administered and paper and pencil tasks are used to assess sensory, motor, cognitive, and affective functions and personality states/traits. Neurobehavioral data are synthesized with information from neurophysiologic studies, imaging techniques, medical history, etc., to derive a working diagnosis. Clinical diagnostic approaches have provided a rich conceptual framework for understanding the functions (and malfunctions) of the central and peripheral nervous systems and have formed the basis for the development of methods for measuring the behavioral expression of nervous system disorders. Human neurobehavioral toxicology has borrowed heavily from neurology and neuropsychology for concepts of nervous system impairment and functional assessment methods. Neurobehavioral toxicology has adopted the neurologic/neuropsychologic model, using adverse changes in behavioral function to assist in identifying chemically or drug-induced changes in nervous system processes.

3.2.1. Neurologic Evaluation

Assessment of neurobehavioral function by the clinical examination of a patient has long been used as a primary tool in neurologic diagnosis. The domains of cognitive function, motor function, sensation, reflexes, and cranial nerve function are a standard part of the clinical neurologic exam. Movement and gait, speech fluency and content, verbal memory, deep tendon reflexes, muscle strength, symmetry of movement and strength, ocular movements, sensory function (pressure, vibration, visual, auditory), motor coordination, and logical reasoning are only a few of the functions assessed by neurologists (Denny-Brown et al., 1982).

Trained and experienced clinicians gather these data by observation, verbal exchange, and direct examination. Neurologic exams are sensitive indicators of neurologic disease; the data have predictive value for the diagnosis of underlying nervous system disease, and the methods have been extensively validated against other diagnostic procedures (e.g., imaging, neurophysiologic testing), the course of the illness, and autopsy findings. Examination of the patient in a semistructured procedure can yield a wealth of information and insights about functional impairment and the underlying neuropathology.

3.2.2. Neuropsychological Testing

Neuropsychologists have developed quantitative methods to supplement clinical neurologic exam and laboratory data for the diagnosis of neurologic disease. Currently, two assessment batteries, the Luria-Nebraska and the Halstead-Reitan, and shorter versions are used in clinical practice. The batteries consist of subtests that quantify a wide spectrum of cognitive, motor, sensory, intellectual, affective, and personality functions. The pattern of relative performance on the subtests can be interpreted along with historical and medical data to suggest the presence or absence of neurologic disease and the possible anatomic location of any focal lesions or degeneration. Clinical interpretation of the data is enhanced by data on age-related population norms for many subtests and by the systematic observation of the patient during testing.

Several neurotoxicity assessment batteries use components of neuropsychological tests and have adapted and shortened analogs of some

subtests. Tests derived from the Wechsler Adult Intelligence Scale—Revised (WAIS–R) have been used frequently to assess neurobehavioral impairment from chemical agents, and other abbreviated variations of neuropsychological battery subtests have been incorporated into neurobehavioral toxicity batteries and used in field and laboratory studies.

3.2.3. Applicability of Clinical Methods to Neurotoxicology Risk Assessment

Neurologic and neuropsychologic methods have long been employed to identify the adverse health effects of environmental workplace exposures. Peripheral neuropathies (with sensory and motor disturbances), encephalopathies, organic brain syndromes, extrapyramidal syndromes, demyelination, autonomic changes, and dementia are well-characterized consequences of acute and chronic exposure to chemical agents. The range of exposure conditions that produce clinical signs of neurotoxicity also has been defined by using these clinical methods.

Aspects of the neurologic examination approach limit its usefulness for neurotoxicologic risk assessment. Information obtained from the neurologic exam is mostly qualitative and descriptive rather than quantitative. Estimates of the severity of functional impairment can be reliably placed into only three or four categories (for example, mild, moderate, severe). Much of the assessment depends on the subjective judgment of the examiner; the magnitude and symmetry of muscle strength are often judged by having the patient push against the resistance of the examiner's hands. The datum is therefore the absolute and relative amount of muscle load sensed by the examiner in his or her arms.

Compared with other methods, the neurologic exam may be less sensitive in detecting early neurotoxicity in peripheral sensory and motor nerves. While clinicians' judgments are equal in sensitivity to quantitative methods in assessing the amplitude of tremor, tremor frequency is poorly quantified by clinicians. Thus, important aspects of the clinical neurologic exam may be insufficiently quantified and lack sufficient sensitivity for detecting early neurobehavioral toxicity produced by environmental or workplace exposure conditions. However, a neurologic evaluation of persons with documented neurobehavioral impairment would be helpful for identifying nonchemical causes, such as brain disease, diabetes, and cardiovascular insufficiency.

Administration of a neuropsychological battery also requires a trained technician, and interpretation requires a trained and experienced neuropsychologist. Depending on the capabilities of the patient, 2 to 4 hours may be needed to administer a full battery; 1 hour may be needed for the shorter screening versions. These practical considerations may limit the usefulness of neuropsychological assessment in large field studies of suspected neurotoxicity.

In addition to logistical problems in administration and interpretation, neuropsychological batteries and neurologic exams share two disadvantages with respect to neurotoxicity risk assessment. First, neurologic exams and neuropsychological test batteries are designed to confirm and classify functional problems in individuals selected on the basis of signs and symptoms identified by the patient, family, or other health professionals. Their usefulness in detecting low-base rate impairment in workers or the general population is generally thought to be limited, decreasing the usefulness of clinical assessment approaches for epidemiologic risk assessment.

Second, neurologic exams and neuropsychologic test batteries were developed to assess the functional correlates of the most common forms of nervous system dysfunction: brain trauma, focal lesions, and degenerative conditions. The clinical tests were validated against these neurologic disease states. With a few notable exceptions, chemicals are not believed to produce impairment similar to that from trauma or lesions; neurotoxic effects are more similar to the effects of degenerative disease. There has been insufficient research to demonstrate which tests designed to assess functional expression of neurologic disease are useful in characterizing the modes of CNS impairment produced by chemical agents and drugs. More research is needed to validate the usefulness of neuropsychologic test methods in neurotoxicology.

3.3. Current Neurotoxicity Testing Methods

3.3.1. Neurobehavioral Methods

Chemical agents directly or indirectly affect a wide range of nervous system activities. Many of these chemical actions are expressed as alterations of behavior; Anger (1990a) lists 35 neurobehavioral effects of chemical exposure that illustrate alterations in sensory, motor, cognitive, affective, and personality function.

Dozens of tests of neurobehavioral function have been proposed or used in field or laboratory studies to assess the neurotoxicity of chemical agents. Table 3–1 lists some frequently used tests of motor, sensory, cognitive, and affective neurobehavioral function.

TABLE 3–1. NEUROBEHAVIORAL METHODS

Neurobehavioral function	Test
Sensation	Flicker Fusion.
	Lanthony (color vision).
Motor/Dexterity	Pursuit Aiming.
	Finger Tapping.
	Postural Stability.
	Reaction Time.
	Santa Ana Peg Board.
Cognition	Benton Visual Retention.
	Continuous Performance Task.
	Digit-Symbol.
	Digit Span.
	Dual Tasks.
	Paired-Associate.
	Symbol-Digit Task.
	Wechsler Adult Intelligence Scale—Revised® (Components).
	Wechsler Memory Scale.®
Affect	Profile of Mood States® (POMS).

In contrast to the individual focus in clinical evaluation, neurobehavioral tests primarily have been used to evaluate differences between groups, comparing unexposed groups with persons environmentally or occupationally exposed to a suspected neurotoxic agent. An ideal evaluation of groups for quantitative evidence of chemically induced neurobehavioral impairment would involve the assessment of a wide variety of functions, but testing all possible neurobehavioral functions that might be affected in a group of exposed workers, for example, would be impossible. Therefore, a testing strategy has been to use a limited number tests that sample representative neurobehavioral functional domains such as dexterity, visual memory, and reaction time.

3.3.1.1. *Test batteries.* Many field and laboratory studies have selected neurobehavioral methods according to available information about the spectrum of effects of the suspected neurotoxic agent(s). This focused strategy is useful for answering specific questions about known neurotoxins. To identify unspecified neurotoxic effects in groups of workers or to characterize the effects of less well-studied chemicals or mixtures of chemicals, several tests that sample a

representative range of functional domains have been grouped into test batteries. The advantage of a standardized battery is that data from different study populations and chemical classes can be compared, and similarities in effects observed (Johnson, 1987). Standardized batteries can be categorized into investigator-administered and computer-administered types.

3.3.1.2. *Investigator-administered test batteries.* The WHO-recommended Neurobehavioral Core Test Battery (NCTB) (Johnson, 1987), the Finnish Institute of Occupational Health (FIOH) (Hanninen, 1990), and the Pittsburgh Occupational Exposures Test Battery (POET) (Ryan et al., 1987) are three commonly used batteries. The NCTB is frequently used in field studies worldwide and can be fit inside a medium-sized suitcase for transport. The NCTB consists of the following tests: simple reaction time task, digit-symbol coding task, timed motor coordination test (Santa Ana pegboard), digit span memory test, Benton Visual Retention test, pursuit aiming test, and the Profile of Mood States (POMS). Based on factor-analytic studies (Hooisma et al., 1990), these tests are believed to measure the functional domains of immediate memory, attention, dexterity/hand-eye coordination, reaction time, and mood. Long-term memory, verbal and language functions, auditory sensation, judgment, and so forth are not assessed.

3.3.1.3. *Computerized test batteries.* Computerized tests and batteries have been developed for field and laboratory use. The Neurobehavioral Evaluation System (NES) (Baker et al., 1985), MicroTox (Eckerman et al., 1985), the SPES (Iregren et al., 1985), and the NCTR Operant Battery (Paule et al., 1990) are computerized systems developed for neurotoxicity assessment. Current versions of the NES, for example, consist of about 15 different neurobehavioral tests, and the battery has been used in epidemiologic studies of groups exposed to solvent, pesticide, and mercury, and in laboratory studies of NO_2, ethanol, and toluene (Letz, 1990).

Although many computerized tests appear to tap similar neurobehavioral domains as noncomputerized batteries, the visual mode of presentation, the manual mode of response, and the emphasis on speed of responding are believed to have led to significant differences in results obtained from computerized versus noncomputerized forms of similar tests. Attempts to clarify the differences between computerized and noncomputerized test batteries have met with difficulty. Although some tests are similar in each type of battery, size and duration of stimuli, presentation and response modality, number of trials, and scoring vary arbitrarily, preventing direct comparison. An example is the digit-symbol test on the NCTB and the symbol-digit test on the NES. Although almost identical in task requirements, procedural and scoring differences prevent direct comparison of the results from these two tests.

Postural stability is an aspect of integrated sensory and motor function that increasingly is being evaluated in clinical, epidemiologic, and laboratory investigations of effects of pesticides and solvent, and would be useful for assessing therapeutic drug-induced movement disorders such as neuroleptics. Measurement of postural stability requires a computer, special software, monitor, and a force transduction platform on which the subjects must stand (Dick et al., 1990). Mechanical and capacitive field methods for assessing the amplitude and frequency of tremor also are seeing more frequent use.

An advantage of computerized testing is the standardization of test presentation, but a disadvantage is the need for delicate, expensive computers and measurement devices that require transport for field studies. Noncomputerized test batteries are less costly to purchase and easier to transport, enhancing their desirability in field studies, but test administrators require training and small differences in test administration may affect the data.

3.3.2. Neurophysiologic Methods

With improvements in the capabilities and size of equipment, quantitative neurophysiologic measurement of sensory and motor function will be increasingly useful in human neurotoxicity evaluations. A major advantage of these methods for risk assessment is that they can be assessed in both human and animal subjects and the data can be interpreted in an homologous manner.

Electromyographic responses (EMG) and nerve conduction velocity (NCV) have been used in the assessment of peripheral nerve neurotoxicity. Some techniques require that needle electrodes be placed beneath the skin for stimulation and recording and are therefore somewhat uncomfortable for the subject. However, the methods are quantitative, provide multiple endpoints of PNS function, and have clinical relevance.

The adverse effects of solvents, pesticides, and metals have been identified with EMG/NCV neurophysiologic measures. Maximum nerve conduction velocity (MCV) has been shown to vary systematically with cumulative exposure to carbon disulfide (Johnson et al., 1983), suggesting that this measure may be particularly valuable for quantitative risk assessment of peripheral motor nerve toxicity.

Noninvasive neurophysiologic test methods used in neurotoxicity evaluations include the electroencephalogram (EEG), visually evoked response (VER), somatosensory evoked potential (SEP), and the brainstem auditory evoked response (BAER). The EEG is the summed electrical activity of neurons measured with scalp electrodes; voltage and frequency are primary measures. Evoked methods employ specific eliciting stimuli applied to the sense organs to measure nervous system electrical response. Visual patterns, sounds, and cutaneous stimuli are presented to the subject, and "evoked" voltage changes in the nervous system are measured with skin electrodes.

While EEGs were developed as a tool in the neurologic diagnosis of seizure disorders and other brain diseases, dose-related EEG changes in chemically exposed (especially solvents and styrene) individuals have been noted (Seppalainen and Harkonen, 1976). EEG measurement requires large recording devices that can be used in the laboratory or clinic, but are difficult to use in field studies. However, compact computerized recording equipment has been developed, and automated spectral analyses of EEGs have recently been applied to neurotoxicity evaluation (Piikivi and Tolonen, 1989).

In contrast to EEGs, evoked response technology is improving, and equipment, while expensive, is becoming more portable. VERs have been used to detect the sensory toxicity of solvents and carbon monoxide in human subjects, and a relationship has been found between BAER and blood lead levels in children exposed to lead-containing dust in the environment (Otto and Hudnell, 1990). Evoked potentials also may be conditioned, allowing the use of sensory methods to evaluate associative processes.

Dose-response functions have been found with evoked methods. A curvilinear relationship was found between BAER and blood lead concentrations in children (Otto and Hudnell, 1990), and a biphasic function described visual evoked potential (VEP) latency and visual contrast sensitivity and perchloroethylene exposure concentration in a laboratory study (Altmann et al., 1991). In the latter

study, the direction of the response was jointly dependent on dose and stimulus parameters. In addition, changes over time in the effect of the solvent on VEP were dose and stimulus parameter dependent.

Two important methodologic considerations are illustrated by BAER and VEP data. One is that low concentrations of some chemical agents may produce effects (shorter latencies in these examples) that could be interpreted as facilitation rather than impairment. Changes in neuronal latencies in either direction could be a result of the early stages of a neurotoxic process. The second is that the detection of neurotoxic effects is dependent on dose-time-testing parameter interactions. A thorough understanding of the effects of testing parameters on the dose-response relationship and the time course of chemical effect will be necessary for interpreting neurotoxicity studies.

The development of neurophysiologic methods, such as evoked and conditioned potentials, for neurotoxicity risk assessment should be encouraged. These methods provide relatively unambiguous quantitative data on sensory function that have clear implications for health, are influenced by fewer extraneous variables than are self-report and neurobehavioral performance tests, and allow relatively direct extrapolation of effects between animals and humans.

3.3.3. Neurochemical Methods

One of the major difficulties in risk assessment is estimating exposure parameters and the dose or body burden actually absorbed by the individual. In epidemiologic studies, the actual absorption and bioavailability of a chemical from an exposure are frequently unknown.

Measurement of chemical concentrations in biologic fluids or tissues is one way to measure more precisely the concentration at the site(s) of toxic effect. In epidemiologic studies, this has been possible only for chronic exposure and for acute exposure to chemicals with long biologic half-lives in the body, such as lead, other metals, and bromides. Blood lead levels show correlations with neurobehavioral impairment, but blood lead levels are representative correlates of toxicity only for relatively acute doses. In children, for example, the majority of lead-related impairment is the result of chronic, rather than acute, absorption. The cumulative amount of lead sequestered in tissues (such as deciduous teeth) may be a more representative indicator of the area under the time-concentration curve.

For chemicals with half-lives in the body too short for estimating absorbed dose, the biochemical products from the chemical or from the physiologic effects of the chemical may serve as an index of exposure. Serum enzyme concentrations (cholinesterase) and esterases in other tissues (lymphocyte target esterase) have been employed in field studies to detect pesticide exposure, while vanillylmandelic acid (product of catecholamine neurotransmitter biotransformation) and erythrocyte protoporphyrin concentrations have been used with varying success in differentiating between lead-exposed and control workers. The addition of similar "exposure biomarker" measures to laboratory studies may allow the development of quantitative estimates of absorbed dose under various exposure conditions.

The measurement of metabolic products of neurotoxic agents may be extremely useful in risk assessment; an example comes from cancer risk assessment. Human data from the early 1970s on saturation of microsomal methylene chloride biotransformation to carbon monoxide (Stewart et al., 1972), along with subsequent animal carcinogenesis data garnered in the 1980s, provided a quantitative basis for a physiologically based pharmacokinetic model of methylene chloride cancer risk assessment (Andersen et al., 1991). The information on human CO pathway kinetics provided the homologous key that allowed extrapolation of risk from animals to humans on a comparative physiologic basis rather than using default assumptions.

3.3.4. Imaging Techniques

A number of recently developed computerized imaging techniques for evaluating brain activity and cerebral/peripheral blood flow have added valuable information to the neurologic diagnostic process. These imaging methods include thermography, positron emission tomography, passive neuromagnetic imaging (magnetoencephalography), magnetic resonance imaging, magnetic resonance spectroscopy, computerized tomography, doppler ultrasonography, and computerized EEG recording/analysis (brain electrical activity mapping). The research application of these invasive and noninvasive quantitative methods has primarily been in neurology, schizophrenia research, drug abuse, and AIDS research. Although the equipment for brain imaging is expensive and not portable, neuroimaging techniques promise to be valuable clinical and laboratory research tools in human neurotoxicology.

3.3.5. Neuropathologic Methods

Neuropathologic examination of nervous system tissue has been used to confirm data from clinical testing and to contribute to the understanding of mechanisms of action of neurotoxicity. Peripheral nerve biopsies have confirmed chemically induced peripheral neuropathies and evaluated rates of recovery (Fullerton, 1969). Postmortem examination of nervous tissue also has elucidated the neuropathological effects of carbon disulfide, clioquinol, and doxorubicin (Spencer and Schaumburg, 1980).

3.3.6. Self-Report Assessment Methods

Self-report measures relevant to neurotoxicity risk assessment consist of histories of symptoms, events, behaviors, and environmental conditions. Information is obtained by face-to-face interviews, structured interviews (often conducted for diagnostic purposes), medical histories, questionnaires, and survey instruments.

Self-report instruments are the only means for measuring some symptoms and all interoceptive states, such as pain and nausea. Self-reports also are used to obtain information on behaviors and events (e.g., exposure conditions) especially when practical, legal, or ethical limitations prevent direct observation.

Subjective symptoms elucidated from self-report instruments are responsive to dose. Hanninen et al. (1979) found that subjective symptoms were positively correlated with blood lead levels in exposed workers. Subjective pain estimations are correlated with dose and type of centrally and peripherally acting analgesics, and anxiety scores on a variety of scales are responsive to the size of the anxiolytic dose.

Symptom checklists are used in epidemiologic research to identify the pattern of subjective complaints, which can be used to guide the selection of objective assessment methods. The distribution of symptoms can be correlated with indices of exposure to determine if particular symptoms are more prevalent in exposed persons (Sjogren et al., 1990).

Self-report data are notable for biases that may influence them; these biases are well known in epidemiology, clinical practice, and social science. Even in the most superficial of questions, respondents may consciously or unknowingly bias the answer to fit what they believe to be the examiner's

expectations. Details of objective events or subjective states are subject to alteration; recall and reporting of remembered occurrences may be biased to fit interpretations and expectations. The socioeconomic status, gender, and affiliation of the tester also have been identified as biasing variables. Bias occurs when information is requested about behaviors, beliefs, or feelings believed by the respondent to be socially undesirable or when reinforcement contingencies (e.g., litigation) strongly favor selective reporting.

Biases in self-report data can be reduced by making the questionnaire anonymous or highly confidential; objective data can be used to validate self-reports. Ethnographic observations, objective measurement of behavior, biologic samples, and the observations of significant others are employed to validate self-report data. Consistent descriptions of events by several persons lend credence to the reliability of the report. Many clinical interviews and self-report assessment instruments include some mechanisms for detecting self-report bias, either by looking for endorsement of improbable behaviors, or by examining the consistency of information gathered in several ways or from several sources. Concordance among biologic indices, observations, and physical examinations increases the judged validity of self-reports.

3.3.6.1. *Mood scales.* Changes in mood and emotionality are consequences of neurotoxicity. For example, case reports have identified mood changes from exposure to mercury, lead, solvents, and organophosphate insecticides. The Taylor Manifest Anxiety Scale and the Profile of Mood States (POMS) are standardized self-report assessment instruments for which there is some evidence of sensitivity to chemical insult.

The POMS, a component of the Neurobehavioral Core Test Battery, is a self-report measure that asks respondents to use a 5-point scale to rate the magnitude of 65 subjective states, such as "tense," "relaxed," "hopeless," "guilty," etc., that they have experienced within the past week. The responses are scored according to six mood factors, and a Total Mood Disturbance Score also may be calculated. Liang et al. (1990) used the POMS to evaluate lead-exposed workers (mean blood lead concentration of 41 µg/dL) from a battery plant and a control group from a fabric-weaving manufacturer. Exposed workers were significantly higher on tension, depression, anger, fatigue, and confusion scales.

Mood scales were developed to aid in assessment of psychological disorders, such as depression, and to track treatment response. In addition, mood is modulated by metabolic and endocrine variables in health and disease and can change rapidly in response to interpersonal, workplace, and environmental events. The large number of nonchemical variables and the lability of mood make inclusion of carefully selected controls essential in using affect as an endpoint in neurotoxicity research.

The validity of mood scales may be limited to the specific populations in which the validity studies were performed. As characterizations of internal states, the meaning of the descriptors in the POMS established for one culture may not be the same as the meaning of that concept or term in other cultures or in other language systems. There may be variations in interpretation of the terms by respondents across English-speaking subcultures, perhaps as a function of education or the size of the verbal community. While these differences may not impede a global clinical interpretation, the reduction in generalizability across study populations may be sufficient to decrease the usefulness of subjective scales in quantitative neurotoxicity risk assessment.

3.3.6.2. *Personality scales.* The Minnesota Multiphasic Personality Inventory (MMPI), the Cattell 16 PF, and the Eysenck Personality Inventory have occasionally been used in neurotoxicity research. Exposed and nonexposed groups have differed on several scales derived from these standardized questionnaires. The diagnostic power of the MMPI, for example, is not in the individual scales but in the pattern of scores on the 10 clinical and 3 validity scales. Because interpretation of the MMPI requires a trained diagnostician with experience in the population of interest, it is less likely to be useful in quantitative neurotoxicity assessment.

3.4. Approaches to Neurotoxicity Assessment

3.4.1. Epidemiologic Studies

Epidemiology has been defined as "the study of the distributions and determinants of disease and injuries in human populations" (Mausner and Kramer, 1985). Knowing the frequency of illness in groups and the factors that influence the distribution is the tool of epidemiology that allows the evaluation of casual inference with the goal of prevention and cure of disease. Epidemiologic studies are a means of evaluating the effects of neurotoxic substances in human populations, but such studies are limited because they must be performed shortly after exposure if the effect is acute. Most often these effects are suspected to be a result of occupational exposures due to the increased opportunity for exposure to industrial and other chemicals.

3.4.1.1. *Case reports.* The first type of human study undertaken is the case report or case series, which can identify cases of a disease and are reported by clinicians or discerned through active or passive surveillance, usually in the workplace. For example, the neurological hazards of exposure to Kepone, dimethylaminopropionitrile, and methyl-n-butyl ketone were first reported as case studies by physicians who noted an unusual cluster of diseases in persons later found to have been exposed to these chemicals (Cone et al., 1987). However, case histories where exposure involved a single neurotoxic agent, though informative, are rare in the literature; for example, farmers are exposed to a wide variety of potentially neurotoxic pesticides. Careful case histories assist in identifying common risk factors, especially when the association between the exposure and disease is strong, the mode of action of the agent is biologically plausible, and clusters occur in a limited period of time.

Case reports are inexpensive compared with other types of epidemiologic studies and can be obtained more quickly than more complex studies. They provide little information about disease frequency or population at risk, but their importance has been clearly demonstrated, particularly in accidental poisoning or acute exposure to high levels of toxicant. They remain an important source of index cases of new diseases and for surveillance in occupational settings. These studies require confirmation by additional epidemiologic research employing other study design.

3.4.1.2. *Cross-sectional studies.* In cross-sectional studies or surveys, both the disease and suspected risk factors are ascertained at the same time and the findings are useful in generating hypotheses. A group of people is interviewed, examined, and tested at a single point in time to ascertain a relationship between a disease and a neurotoxic exposure. This study design does not allow the investigator to determine whether the disease or the exposure came first, rendering it less useful in estimating risk. These studies

are intermediate in cost and time required to complete compared with case reports and more complex analytical studies.

3.4.1.3. *Case-control (retrospective) studies.* Last (1986) defines a case-control study as one that "starts with the identification of persons with the disease (or other outcome variable) of interest, and a suitable control population (comparison, reference) group of persons without the disease." He states that the relationship of an "attribute" to the disease is measured by comparing the diseased with the nondiseased with regard to how frequently the attribute is present in each of the groups. The cases are assembled from a population of persons with and without exposure and the comparison group is selected from the same population; the relative distribution of the potential risk factor (exposure) in both groups is evaluated by computing an odds ratio that serves as an estimate of the strength of the association between the disease and the potential risk factor. The statistical significance of the ratio is determined by calculating a p-value and is used to approximate relative risk.

The case-control approach to the study of potential neurotoxins in the environment has provided a great deal of information. In his recent text, Valciukas (1991) notes that the case-control approach is the strategy of choice when no other environmental or biological indicator of neurotoxic exposure is available. He further states: "Considering the fact that for the vast majority of neurotoxic chemical compounds, no objective biological indicators of exposure are available (or if they are, their half-life is too short to be of any practical value), the case-control paradigm is a widely accepted strategy for the assessment of toxic causation." The case-control study design, however, can be very susceptible to bias. The potential sources of bias are numerous and can be specific to a particular study, and will be discussed only briefly here. Many of these biases also can be present in cross-sectional studies. For example, recall bias or faulty recall of information by study subjects in a questionnaire-based study can distort the results of the study. Analysis of the case-comparison study design assumes that the selected cases are representative persons with the disease—either all cases with the disease or a representative sample of them have been ascertained. It further assumes that the control or comparison group is representative of the nondiseased population (or that the prevalence of the characteristic under study is the same in the control group as in general population). Failure to satisfy these assumptions may result in selection bias, but violation of assumptions does not necessarily invalidate the study results.

An additional source of bias in case-control studies is the presence of confounding variables, i.e., factors known to be associated with the exposure and causally related to the disease under study. These must be controlled either in the design of the study by matching cases to controls on the basis of the confounding factor or in the analysis of the data by using statistical techniques such as stratification or regression. Matching requires time to identify an adequate number of potential controls to distinguish those with the proper characteristics, while statistical control of confounding requires a larger study.

The definition of exposure is critical in epidemiologic studies. In occupational settings, exposure assessment is based on the job assignment of the study subjects, but can be more precise if detailed company records allow the development of exposure profiles.

3.4.1.4. *Prospective (cohort, followup) studies.* In a prospective study design, a healthy group of people is assembled and followed forward in time and observed for the development of disease. Such studies are invaluable for determining the time course for development of disease (e.g., followup studies performed in various cities on the effects of lead on child development). This approach allows the direct estimate of risks attributed to a particular exposure since disease incidence rates in the cohort are determined and allows the study of chronic effects of exposure. One major strength of the cohort design is that it allows the calculation of rates to determine the excess risk associated with an exposure. Also, biases are reduced by obtaining information before the disease develops. This approach, however, can be very time-consuming and costly.

In cohort studies information bias can be introduced when individuals provide distorted information about their health because they know their exposure status and may have been told of the expected health effects of the exposure under study.

A special type of cohort study is the retrospective cohort study in which the investigator goes back in time to select the study groups and traces them over time, often to the present. The studies usually involve specially exposed groups and have provided much assistance in estimating risks due to occupational exposures. Occupational retrospective cohort studies rely on company records of past and current employees that include information on the dates of employment, age at employment, date of departure, and whether diseased (or dead in the case of mortality studies). Workers can then be classified by duration and degree of exposure. A retrospective cohort study was performed in which a cohort of 1,790 bricklayers and 2,601 men exposed to paint solvents was retrospectively identified and, if a disability pension had been awarded, the subjects were examined for evidence of presenile dementia. This study found a rate ratio of 3.4 for presenile dementia among the painters as compared with the bricklayers (Johnson, 1987).

3.4.2. Human Laboratory Exposure Studies

Neurotoxicity assessment has an advantage not afforded the evaluation of other toxic endpoints, such as cancer or reproductive toxicity, in that the effects of some chemicals are short in duration and reversible. This makes it ethically possible to perform human laboratory exposure studies and obtain data relevant to the risk assessment process. Information from experimental human exposure studies has been used to set occupational exposure limits, mostly for organic solvents that can be inhaled.

Laboratory exposure studies have contributed to risk assessment and the setting of exposure limits for several solvents and other chemicals with acute reversible effects. These chemicals include methylene chloride, perchloroethylene, trichloroethylene, and p-xylene (Dick and Johnson, 1986).

Human exposure studies offer advantages over epidemiologic field studies. Combined with appropriate sampling of biologic fluids (breath or blood), it is possible to calculate body concentrations, to examine toxicokinetics, and identify metabolites. Bioavailability, elimination, dose-related changes in metabolic pathways, individual variability, time course of effects, interactions between chemicals, interactions between chemical and environmental/biobehavioral factors (stressors, workload/respiratory rate) are some processes that can be evaluated in laboratory studies.

Other goals of laboratory studies include the indepth characterization of effects, the development of new assessment methods, and the examination of the sensitivity, specificity, and reliability of neurobehavioral assessment methods across chemical classes.

The laboratory is the most appropriate setting for the study of environmental and biobehavioral variables that affect the action of chemical agents. The effects of ambient temperature, task difficulty, the rate of ongoing behavior, conditioning variables, tolerance/sensitization, sleep deprivation, motivation, etc., can be studied.

3.4.2.1. *Methodologic aspects.* From a methodologic standpoint, human laboratory studies can be divided into two categories—between-subjects and within-subjects designs. In the former, the neurobehavioral performance of exposed volunteers is compared with that of nonexposed participants. In the latter, preexposure performance is compared with neurobehavioral function under the influence of the chemical or drug. Within-subjects designs have the advantage of requiring fewer participants, eliminating individual differences as a source of variability, and controlling for chronic mediating variables, such as caffeine use and educational achievement. A disadvantage of the within-subjects design is that neurobehavioral tests must be administered more than once. Practice on many neurobehavioral tests often leads to improved performance that may confound the effect of the chemical/drug. It is important to allow a sufficient number of test sessions in the preexposure phase of the study to allow performance on all tests to achieve a relatively stable baseline level.

3.4.2.2. *Human subject selection factors.* Participants in laboratory exposure studies may be recruited from populations of persons already exposed to the chemical/drug or from naive populations. Although the use of exposed volunteers has ethical advantages, can militate against novelty effects, and allows evaluation of tolerance/sensitization, finding an accessible exposed population in reasonable proximity to the laboratory is difficult. Naive participants are more easily recruited, but may differ significantly in important characteristics from a representative sample of exposed persons. Naive volunteers are often younger, healthier, and better educated than the populations exposed environmentally, in the workplace, or pharmacotherapeutically. For example, phase I drug trial data from relatively young and healthy volunteers may not adequately predict the incidence of neurotoxic side effects in older persons with chronic health problems.

3.4.2.3. *Exposure conditions and chemical classes.* Compared with workplace and environmental exposures, laboratory exposure conditions can be controlled more precisely, but exposure periods are much shorter. Generally only one or two relatively pure chemicals are studied for several hours while the population of interest may be exposed to multiple chemicals containing impurities for months or years. Laboratory studies are therefore better at identifying and characterizing effects with acute onset and the selective effects of pure agents.

Most laboratory studies of neurobehavioral function have employed individual solvents, combinations of two solvents, or very low concentrations of chemicals released from household and office materials (volatile organic compounds). This selection is primarily because solvent effects are reversible, because there are wide margins of safety for acute effects of solvents, because solvents can be administered via inhalation methods that allow calculation of body concentrations by breath sampling methods that do not require needle sticks, because over 1 million workers may have occupational solvent exposure, and because of the extensive use of solvents in household products. Chemicals studied in the laboratory over the past 40 years have included ozone, NO_2, CO, styrene, lead, anesthetic gases, pesticides, irritants, chlorofluorocarbon compounds, and propylene glycol dinitrite. Caffeine, diazepam, and ethanol have been used in laboratory studies as positive control substances.

3.4.2.4. *Test methods.* Neurobehavioral test methods may be selected according to several strategies. A test battery that examines multiple neurobehavioral functions may be more useful for screening and the initial characterization of acute effects. Selected neurobehavioral tests that measure a more limited number of functions in multiple ways may be more useful for elucidating mechanisms or validating specific effects.

3.4.2.5. *Controls.* Both chemical and behavioral control procedures are valuable for examining the specificity of the effects. A concordant effect among different measures of the same neurobehavioral function (e.g., reaction time) and a lack of effect on some other measures of psychomotor function (e.g., untimed manual dexterity) would increase the confidence in a selective effect on motor speed and not on attention or on nonspecific motor function. Likewise, finding concordant effects among similar chemical or drug classes along with different effects from dissimilar classes would support the specificity of chemical effect. For example, finding that the effects of a solvent were similar to those of ethanol but not caffeine would support the specificity of solvent effects on a given measure of neurotoxicity.

3.4.2.6. *Ethical issues.* Most human exposure studies in the laboratory have been justified on the basis of data indicating that the chemical or drug exposure produces only temporary and reversible functional effects. The use of occupationally, environmentally, or therapeutically exposed populations as a source of participants also makes the risks from research exposure small relative to nonlaboratory sources of risk. Protection of human subjects is also provided by the informed consent process; the health risks (known and unknown) and benefits of the research are thoroughly explained to each participant, who may terminate participation in the study at any time.

Despite safeguards, several chemicals and drugs thought at the time of the exposure study to produce only temporary neurobehavioral effects are now (20 years later) suspected of being potential human carcinogens on the basis of animal and human data (e.g., methylene chloride, perchloroethylene). Other chemicals, however, are now thought to be less carcinogenic or otherwise less toxic in humans than once believed. Rapid advances in all areas of toxicology make it difficult to communicate, to potential subjects, reliable information about the likelihood of long-term, latent, or delayed adverse effects on health subsequent to the study. The communication of uncertainty about potential long-term effects to research participants is essential if human exposure studies are to be conducted ethically and are to continue their contributions to neurotoxicology and risk assessment.

3.5. Assessment of Developmental Neurotoxicity

3.5.1. Developmental Deficits

While adult neurotoxicology evaluates the effects of chemical exposure on relatively stable nervous system structure and function, developmental neurotoxicology addresses the special vulnerabilities of the young and the old. Neurobehavioral assessment of chemical neurotoxicity is complicated by having to measure functional impairment within a sequential progression of emergence, maturation, and gradual decline of nervous system capabilities. Methods in developmental neurotoxicity assessment must reflect the diversity of neurobehavioral functions, from neonates to the elderly.

Exposure of pregnant women to alcohol, drugs of abuse, therapeutic drugs, nicotine, and environmental chemicals may result in the immediate or delayed appearance of neurobehavioral impairment in children (Kimmel, 1988; Nelson, 1991a). Postnatal exposure of children to chemical agents in the environment, such as lead, also may impair IQ and other indices of neurobehavioral function (Needleman et al., 1979). Neurotoxic effects may impair speech and language, attention, general intelligence, "state" regulation and responsiveness to external stimulation, learning and memory, sensory and motor skills, visuospatial processing, affect and temperament, and responsiveness to nonverbal social stimuli. Chemical neurotoxicity may be manifested as decreases in functional capabilities or delays in normative developmental progression.

Neurotoxic effects are not limited to direct exposure of the fetus or child to the chemical. Animal studies suggest that altered neurobehavioral development in offspring may result from exposure of males (Joffe and Soyka, 1981) and females to chemical substances prior to conception. In this case, altered postnatal development may reflect chemical influences on mechanisms of inheritance, copulatory behavior, nutritional status, hormonal status, or the uterine environment. In animals and humans, chemical exposure of parents may indirectly impair postnatal development through changes in milk composition, parenting behaviors, and other aspects of the environment.

In older adults the normal aging process alters the response to neurotoxicants. Both pharmacodynamic and pharmacokinetic changes may underlie altered sensitivities to the neurotoxic effects of drugs and chemicals. An example well known in geriatric medicine is the apparent increase in sensitivity of the elderly to the toxic effects of anxiolytics (Salzman, 1981). Decreases in biotransformation rate and renal elimination of parent drug and active metabolites, not related to disease processes, may partially account for the increased vulnerability (Friedel, 1978). Chronic disease states in older persons may result in decreased functional capabilities and increased vulnerability to neurotoxic effects. Chronic diseases also may prompt pharmacotherapy that may impair neurobehavioral function. Cardiovascular, psychopharmacologic, and antineoplastic medications may result in patterns of neurobehavioral impairment not typically seen in younger individuals.

3.5.2. Methodologic Considerations

Standardized methods are being developed for pediatric neurotoxicity assessment. Neurobehavioral functions emerge during developmental phases from neonatal stage through secondary school, and nervous system insult may be reflected not only in impairment of emergent functions, but also as delays in the appearance of new functions. Both the severity and type of deficit are affected by the dose and duration of exposure (Nelson, 1991b), and different sensitivities to chemical effects may be exhibited at different stages of nervous system development. Early episodes of exposure may produce structural damage to the nervous system that may not be developmentally expressed in behavior for several months or years.

The selection of appropriate testing methods and conditions is more important when assessing children because of shorter attention spans and increased dependence on parental and environmental supports. In addition, because of the increasing complexity of functional capabilities during early development, only a few tests appropriate for infants can be validly readministered to older children. Given the complexity of these variables, the task of devising sensitive, reliable, and valid assessment instruments or batteries for pediatric populations will be challenging.

Assessment methods in older adults must be capable of distinguishing chemical and drug effects from the effects of aging processes and chronic disease states (Crook et al., 1983). Assessment methods must be valid and reliable with repeated administration across a significant portion of the lifespan, and take into consideration the time (days, months, or years) that may intervene between exposure/insult and the expression of neurotoxicity as functional impairment. Research on nonexposed populations to develop age-appropriate normative scores for neurobehavioral functions will be important for the interpretation of assessment instruments.

Environmental exposure to neurotoxic chemicals and drugs is correlated with socioeconomic and ethnic status. Assessment methods will therefore have to be adapted to diverse ethnic, cultural, and language groups. While gender differences in early development have been noted, differential responses of males and females to neurotoxicants have been less well explored and should receive attention.

3.6. Issues in Human Neurotoxicology Test Methods

3.6.1. Risk Assessment Criteria for Neurobehavioral Test Methods

The value of human neurobehavioral test methods for quantitative risk assessment is related to the number of the following criteria that can be met:

a. Demonstrate sensitivity to the kinds of neurobehavioral impairment produced by chemicals; that is, able to detect a difference between exposed and nonexposed populations in field studies or between exposure and nonexposure periods in human laboratory research.

b. Show specificity for neurotoxic chemical effects and not be unduly responsive to a host of other nonchemical factors, and show specificity for the neurobehavioral function believed to be measured by the test method.

c. Demonstrate adequate reliability (consistency of measurement over time) and validity (concordance with other behavioral, physiologic, biochemical, or anatomic measures of neurotoxicity).

d. Show graded amounts of neurobehavioral change as a function of exposure parameter, absorbed dose, or body burden along some ordinal or continuous metric (dose response).

e. For representative classes or subclasses of CNS/PNS-active chemicals, identify single effects or patterns of impairment across several tests or functional domains that are reasonably consistent from study to study (structure-activity).

f. Be amenable to the development of a procedurally similar counterpart that can be used to assess homologous behaviors in animals.

3.6.1.1. *Sensitivity.* Individual neurobehavioral tests and test batteries have detected differences between exposed and nonexposed populations in epidemiologic studies and in laboratory studies. Effects have been detected by neurobehavioral methods at concentrations thought by other kinds of evaluation not to produce neurotoxicity. Workplace exposure limits to many chemicals have been set on the basis of neurobehavioral studies. While the overall sensitivity of neurobehavioral methods is sufficient to be useful in neurotoxicology risk assessment, some methods are notably insensitive across several chemical classes while the sensitivity of other neurobehavioral tests varies according to the spectrum of neurotoxic effects of the chemical or drug.

Sensitivity is sometimes negatively correlated with reliability; selecting for tests that show little change over time

may also select for tests that are not sensitive to neurotoxic insult.

Having more control over the testing environment and using a repeated measures design may decrease variability and increase statistical power, but these tactics may introduce other problems. There is some suggestion that experience in highly structured laboratory environments with explicit stimulus conditions may reduce the sensitivity of humans and animals to the effects of drugs and chemicals, and the sensitivity of neurobehavioral measures to impairment by a chemical or drug may depend on neurobehavioral training history (Terrace, 1963; Brady and Barrett, 1986). Sensitivity may also be decreased if baseline behaviors are stable and well practiced or an escape/avoidance procedure is employed.

The systematic introduction of stimulus or response changes to induce transitional behaviors, such as in a transitional state or repeated learning paradigms, may be one way to retain the advantage of a stable baseline, have sufficient sensitivity, and avoid practice effects (Anger and Setzer, 1979).

3.6.1.2. *Specificity.* There are two kinds of specificity in neurobehavioral assessment of chemical or drug neurotoxicity. Chemical specificity refers to the ability of a test to reflect chemical or drug effects and to be relatively resistant to the influence of nonchemical variables. The second type of specificity refers to the ability of a test method to measure changes in a single neurobehavioral function (e.g., dexterity) or a restricted number of functions, rather than a broad range of functions (attention, reasoning, dexterity, and vision).

The neurobehavioral expression of neurotoxic chemical or drug effects is a function of the joint interaction of ongoing nervous system processes with the chemical substance and with biopsychosocial variables that also influence nervous system activity. In laboratory exposure studies numerous environmental, behavioral, and biologic variables can influence the type or magnitude of neurotoxic effects of chemical agents and drugs (MacPhail, 1990). These variables include ambient temperature, physical workload, task difficulty, the social and tangible reward characteristics of the laboratory setting, redundancy of stimuli, the rate and form of the behavioral response, conditioning factors, and the interoceptive stimulus properties of the chemicals.

The laboratory research participant's history and habits outside the laboratory also may affect chemical-neurobehavioral interactions by influencing the baseline level of performance on neurobehavioral tests or directly affecting the response of the CNS to the exposure. Age, gender, educational level, intellectual functioning, economic status, acute and chronic health conditions (including developmental or current neurologic conditions), alcohol/drug/tobacco effects or withdrawal, emotional status or significant life events, sleep deprivation, fatigue, and cultural factors are only a few of the variables that may affect performance in laboratory studies (Williamson, 1991; Cassitto et al., 1990).

The influence of these selection and biopsychosocial variables on the neurobehavioral effects of workplace chemicals is poorly understood, although their effects on drug-behavior interactions have been more thoroughly explored. Controlling or understanding chemical and nonchemical variables will be important for ensuring adequate specificity for risk assessment purposes.

3.6.1.3. *Reliability and validity.* Reliability refers to the ability of a given test to produce closely similar results when administered more than once over a period of time or in similar populations. Reliability is meaningful only with respect to the measurement of functions that would not be expected to change significantly over the time period. Test-retest reliability coefficients are between 0.6 and 0.9 (Beaumont, 1990) for most of the tests in the NCTB. With notable exceptions, other neurobehavioral tests have similar reliabilities. Reliabilities in the 0.8 to 0.9 range are usually thought acceptable. As reliability decreases, measurement error is more likely to mask neurotoxic chemical effects.

Validity has two aspects in neurotoxicity testing. A neurobehavioral test may be judged to be valid when it correlates highly with neurobehavioral and biologic measures of chemical or drug effects. A test method may also be termed valid if it correlates well with other tests believed to measure the same neurobehavioral function (e.g., attention) and does not correlate highly with tests that primarily measure other functions. Many tests purport to measure the same or similar cognitive, sensory, or motor functions, but the correlations between these tests under chemical exposure or under control conditions may not be very high. This is not surprising given that different tests of the same function may involve different presentation and response modalities, have differing numbers of trials or a different time limit, and have a different method of scoring the results. Many tests have such large procedural differences that comparison is difficult. Assessment of validity is further complicated in that all neurobehavioral tests require sensory input, attention, decisions, and motor responses.

3.6.1.4. *Dose response.* Dose-response relationships have been observed both in field and laboratory studies. Perhaps the best known examples are epidemiologic studies of lead- and mercury-exposed populations and selected solvents in laboratory studies. Dose-response relationships have been observed frequently in epidemiologic studies. Human laboratory studies also have provided data on the relationship between exposure concentration, plasma or breath concentrations, and the magnitude of neurobehavioral impairment. Defining the neurotoxic dose-response relationship in humans decreases the uncertainties of extrapolation from animal data and allows a more accurate risk assessment.

Recent human solvent exposure studies have employed low concentrations under which neurobehavioral impairment was not observed. Rather, these studies have primarily detected the effects of solvents on mucosal membranes reported by subjects as odors or irritation (Dick, unpublished observation). While these data may be relevant to setting workplace and environmental exposure limits, they can be expected to provide little information about the neurobehavioral impairment that occurs at higher concentrations. The relationship between irritant/odor concentration-effect functions and neurobehavioral impairment concentration-effect functions is not known, but it is probably not linear. Dose-dependent mechanisms of toxic effect can be expected to complicate risk extrapolation across the dose-response range in humans.

A further complication in dose-response extrapolation is that low concentrations of chemicals may appear to improve performance as measured by neurobehavioral tests, while higher doses are more likely to impair performance. Improved performance does not necessarily indicate the absence of neurotoxicity; both increases and decreases in neurobehavioral performance may result from deleterious chemical interactions with neurons. Dose-response extrapolation is further complicated by the observation that facilitative or impairment effects within a given dosage range may occur at some parameters of the test stimulus or aspects of the response (response rate-dependent) but not at others (Altmann et al., 1991). Therefore, dose extrapolations are more difficult when there is uncertainty about the shape of the dose-response function (biphasic,

linear, etc.) at the relevant test stimulus and response parameters.

The risk assessment process with animal data involves extrapolation from the effects of high doses in animals to predict the effects of chronic low-dose exposure in humans. With data from laboratory studies of humans in a risk assessment, however, the extrapolation is in the other direction, from very low-dose laboratory exposure to predict the effects of chronic exposure at higher (but still low) concentrations in the environment and workplace. Low- to high-dose extrapolation within the same species may require different assumptions and risk assessment procedures. Although high-dose human exposures have occurred in accidents, those data are primarily descriptive in nature and cannot easily be plugged into a quantitative risk extrapolation process. Low dose laboratory data may be combined with data from epidemiologic studies of persons exposed to higher concentrations.

3.6.1.5. *Structure-activity.* Structure-activity relationships for well-known chemicals have largely been established by clinical methods (and animal studies) and verified by neurobehavioral and neurophysiologic testing. Although an area of active research, neurobehavioral testing of humans has not yet been able to identify reliable patterns of impairment among chemical classes. This endeavor has been hampered by most laboratory research having been limited to the evaluation of low concentrations of solvents and a few other reversible toxicants and by the exposure uncertainties, biases, and confounding variables found in cross-sectional or cohort field studies.

3.6.2. Other Considerations in Risk Assessment

3.6.2.1. *Mechanisms of action.* Uncovering behavioral and neurophysiologic mechanisms of action is a potential contribution of human laboratory exposure studies to neurotoxicity risk assessment. For example, Stewart et al. (1972) demonstrated that methylene chloride was metabolized to carbon monoxide in humans, and further studies (Putz et al., 1979) found that CO production could account for some of the neurobehavioral impairment observed with that chemical. Recent human laboratory studies of solvents employed low concentrations that produced mucosal irritation and strong odor, but little neurobehavioral impairment (Dick, unpublished observation). The mechanisms of action that produce mucosal irritation and the neurotoxic mechanisms that are expressed in neurobehavioral impairment may be quite different. Data on mucosal irritation and odor may therefore provide limited information for a neurotoxicity risk assessment.

3.6.2.2. *Exposure duration.* A criticism of extrapolation from animal studies to human exposure conditions is that the effects of short-term exposure (months to 1–2 years) in animals may not accurately predict the effects of chronic exposure (>10 years) in humans. Laboratory studies rarely expose human subjects to solvents for more than 4–6 hours per day for 2–5 days while environmental and workplace exposures of concern involve 6–8 hours of exposure per day for years. The uncertainties of extrapolating from relatively acute exposures to predict the risks from chronic exposure will not be eliminated by using human laboratory exposure data in risk assessment.

3.6.2.3. *Time-dependent effects.* The acute exposures that are possible in human laboratory studies may provide little information on chronic time-dependent neurobehavioral effects. The effects of initial exposure may remain the same, decrease (tolerance), or increase (sensitization) with continued or repeated exposure to the chemical. All effects will not change in unison; tolerance and sensitization may be observed simultaneously on different measures of neurobehavioral function. The multiple toxicodynamic effects of chemical exposure (neurobehavioral and other) seem to follow individual time courses suggestive of multiple mechanisms of action. In addition, the processes of tolerance and sensitization can be influenced by testing conditions and the nature of the behavioral task.

One also must be concerned about latent effects that do not appear for some time after a brief exposure and "silent" cumulative neurotoxic effects that are not observable in acute human studies. Latent and silent effects not only bring up the possibility of unknown risks for human subjects, but also make more difficult the extrapolation of chronic neurotoxic risks on the basis of acute exposures.

Therefore, the acute exposure conditions possible in human laboratory studies may provide us with very limited information about the long-term effects of chronic exposure.

3.6.2.4. *Multiple exposures.* In the environment and the workplace, persons are seldom exposed to only a single chemical. Rather, they are most often exposed to complex mixtures of chemicals, the relative concentrations of which may vary over time. For example, one farmer had more than 50 different chemical products (pesticides, herbicides, solvents, metals, gases) with nervous system effects that he used, prepared, or stored in his work shed. Chemicals used in industrial processes may also contain impurities or contaminants that may produce neurotoxic effects or alter the neurotoxicity of the more abundant chemical species. Chemical mixtures may have additive or potentiating effects not predictable from studies of single chemicals (Strong and Garruto, 1991). Human laboratory exposure studies traditionally have employed one highly purified chemical or combinations of two chemicals (usually solvents) and thus may produce a spectrum of neurotoxic effects different from environmental and occupational exposures.

Recently volatile organic compounds (VOCs) have been used in human exposure studies (Otto and Hudnell, 1991). VOCs consist of multiple volatile compounds administered at concentrations commonly found in indoor air from emissions by laminates, carpet, plastics, and other building and decorating materials. Although VOCs are thought to produce primarily mucosal irritation and odors, reports of "sick building syndrome" and individual sensitivity to indoor air contaminants suggest that other neurobehavioral mechanisms also may be operating. Interactions between toxicologic and psychosocial variables may underlie some effects of VOCs.

3.6.2.5. *Generalizability and individual differences.* The results of field studies and laboratory exposure studies are most valuable when they can be extrapolated to the general population. Studies conducted in male workers or in young, healthy volunteers may have limited applicability to women or to people in other age ranges. It therefore is important to conduct studies that include males and females of different ages and ethnic heritage. Culture-sensitive neurobehavioral test methods are being developed and validated in the United States and other countries.

While it is important to increase the generalizability of results, it is equally important to know when results cannot be generalized. Studies should be specifically directed toward identifying subsets of individuals who are more or less sensitive to neurotoxic insult or differ in mode of expression. There are many examples of individual differences that alter response to chemicals and drugs: phenylketonurics are more sensitive to dietary tyramine and persons with variants of plasma pseudocholinesterase are more affected by some neuromuscular blocking agents.

3.6.2.6. *Veracity of neurobehavioral test results.* In most epidemiologic and human laboratory studies, research volunteers are highly motivated to perform well on tests of neurobehavioral function. Under voluntary conditions, actual neurobehavioral performance may serve as a reasonable index of nervous system capabilities. Some studies, however, are conducted in response to complaints of symptoms thought to be related to workplace, environmental, or therapeutic exposure to chemicals and drugs. The performance of research participants with symptoms and complaints may be significantly affected (consciously or unconsciously) by monetary rewards, emotional relief, or social gains from the validation of their complaints. Under these conditions, performance may or may not accurately reflect the capabilities of the nervous system and may lead to inaccurate conclusions about the magnitude of nervous system dysfunction or about putative chemical or drug etiologies.

In addition to suboptimal performance engendered by potential reinforcers or rewards, research participants involved in disputes over suspected neurotoxic exposures or in litigation for monetary damages are likely to be experiencing significant emotional and behavioral reactions from situational sources that can alter the outcome of neurobehavioral assessment. Anxiety, depression, sleep disturbances, fatigue, worry, obsessive thoughts, and distractibility may contribute to less than optimal performance on motor and cognitive neurobehavioral tasks, especially where speed and sustained concentration are important. Under stressful conditions, it may be extremely difficult to differentiate between neurotoxic and situational sources of observed functional impairment. Functional neurobehavioral tests are not well equipped to distinguish between impairment from neurotoxicity and from nonchemical variables. The use of functional tests in symptomatic populations requires great care in interpretation. The development of validity scales and other control procedures for assessing nonchemical influences on performance is greatly needed.

3.6.3. Cross-Species Extrapolation

Many neurobehavioral tests were developed according to constructs of human cognitive processes. The diverse measures of cognitive, sensory, and motor performance in humans are therefore not easily compared with neurobehavioral function in animals. While it may be possible to conceptually relate some animal and human neurobehavioral tests (e.g., grip strength or signal detection), many procedural differences prevent direct comparison between species.

A more direct extrapolation from animals to man might be possible if the tests were chosen on the basis of procedural similarity rather than on a conceptual basis (Anger, 1991). Stebbins and colleagues (1975) were successful in developing homologous procedures in nonhuman primates for the psychophysical evaluation of antibiotic ototoxicity. Efforts to develop comparable tests of memory and other neurobehavioral functions in animals and humans are under way (Stanton and Spear, 1990, Paule et al., 1990), and such efforts may aid in cross-species extrapolation. Other procedurally defined methods, such as Pavlovian conditioning (Solomon and Pendlebury, 1988), operant conditioning (Cory-Slechta, 1990), signal detection, and psychophysical scaling techniques (Stebbins and Coombs, 1975), could also be used to facilitate interspecies risk extrapolation. Deriving comparable neurobehavioral assessment methods in animals and humans that will allow a more straightforward extrapolation across species is of paramount importance for neurotoxicity risk assessment.

4. Methods to Assess Animal Neurotoxicity

4.1. Introduction

4.1.1. Role of Animal Models

Determining the risk posed to human health from chemicals requires information about the potential toxicological hazards and the expected levels of exposure. Some toxicological data can be derived directly from humans. Sources of such information include accidental exposures to industrial chemicals, cases of food-related poisoning, epidemiological studies, as well as clinical investigations. While human data are available from clinical trials for therapeutics and they provide the most direct means of determining effects of potentially toxic substances, for other categories of substances, it is generally difficult, expensive, and, in some cases, unethical to develop this type of information. Quite often, the nature and extent of available human toxicological data are too incomplete to serve as the basis for an adequate assessment of potential health hazards. Furthermore, for a majority of chemical substances human toxicological data are simply not available. Consequently, for most toxicological assessments it is necessary to rely on information derived from animal models, usually rats or mice. One of the primary functions of animal studies is to predict human toxicity prior to human exposure. In some cases, species phylogenetically more similar to human, such as monkeys or baboons, are used in neurotoxicological studies.

Biologically, animals resemble humans in many ways and can serve as adequate models for toxicity studies (Russell, 1991). This is particularly true with regard to the assessment of adverse effects to the nervous system, whereby animal models provide a variety of useful information that helps minimize exposure of humans to the risk of neurotoxicity. There are many approaches to testing for neurotoxicity, including whole animal (in vivo) testing and tissue/cell culture (in vitro) testing.

In vivo animal studies currently serve as the principal approach to detect and characterize neurotoxic hazard and to help identify factors affecting susceptibility to neurotoxicity. Data from animal studies are used to supplement or clarify limited information obtained from clinical or epidemiological studies in humans, as well as provide specific types of information not readily obtainable from humans due to ethical considerations. Frequently, results from animal studies are used to guide the design of toxicological studies in humans.

In vitro tests have been proposed as a means of complementing whole animal tests, which could ultimately reduce the number of animals used in routine toxicity testing. It also has been proposed that in vitro testing, when properly developed, may be less time-consuming and more cost-effective than in vivo assessments (Goldberg and Frazier, 1989; Atterwill and Walum, 1989). By understanding the biological structures or functions affected by toxic substances in vitro, it also may be possible to predict neurotoxicological effects in the whole animal. An added advantage of in vitro testing is the growing availability of human cell lines that could be used for directly assessing potential neurotoxic effects on human tissue. The currently available strategies for in vitro testing have certain limitations, including the inability to model neurobehavioral effects such as loss of memory or sensory dysfunction or to evaluate effectively the influence of organ system interactions (e.g., neuronal, endocrinological, and immunological) on the development and expression of neurotoxicity.

In using animal models to predict neurotoxic risk in humans, it is important to understand that the biochemical and physiological

mechanisms that underlie human biological processes, particularly those involving neurological and psychological functions, are very complex and are sometimes difficult, if not impossible, to model exactly in a lower species. While this caveat does not preclude extrapolating the results of animal studies to humans, it does highlight the importance of using valid animal models in well-designed experimental studies.

4.1.2. Validity of Animal Models

Whether animal tests or methods actually measure what they are intended to measure, whether the data from such tests can be obtained reliably, and whether such data can be logically extrapolated to humans are problems for most disciplines in toxicology. Various proposals have been made for the standardization and validation of methods used in neurotoxicological research. It is generally agreed that validation is an ongoing process that establishes the credibility of a test, building an increasing level of confidence in the effective utility of any model of evaluation. The credibility of a method, as it applies to testing, is usually discussed within several different contexts, including construct validity, criterion validity, predictive validity, and detection accuracy.

Construct validity concerns the ability of a method to measure selectively a particular biological function and not other dimensions. Construct validity is frequently established empirically. For example, sensory dysfunction such as hearing loss is reported by humans exposed to some chemicals, and tests are designed to detect and quantify those changes. Such tests are designed to measure changes in auditory function, while other sensations are unaffected (Tilson, 1987; Moser, 1990).

Criterion validity refers to the ability of a method to measure a characteristic relative to some standard. For example, Horvath and Frantik (1973) noted that the significance of a test measurement as an index of an actual treatment effect should be validated relative to the effects of a defined reference substance or positive control. Furthermore, each specific test or type of effect may require an appropriate reference substance for which the given type of effect is a determining factor of the toxicity. Use of reference agents has obvious advantages in the assessment of unknown chemicals.

Predictive validity refers to the ability of a method to predict effects from an incomplete or partial data set. An animal model of neurotoxicity with good predictive validity would reliably predict neurotoxicity in humans, i.e., the animal to human extrapolation would be good. There are several examples in neurotoxicology where animal models have been developed based on neurotoxicological reports from humans. Presumably, the predictive validity of such models would enable detecting similar kinds of effects produced by uncharacterized chemicals having a similar mechanism of action.

It has been proposed (Tilson and Cabe, 1978) that the most logical approach to validate animal methods in neurotoxicology is to evaluate chemicals known to be human neurotoxicants in tests designed for animals (predictive validity). By using such an approach, it is possible to generate a profile of effects characteristic of each type of neurotoxicant (criterion validity). This profile could then be used to assess the construct validity of various tests. That is, procedures assumed to measure the same neurobiological dimension should show similar effects; measures designed to detect changes in other functions should not be affected. This approach to test validation has been described as the multitrait-multimethod process of validation (Campbell and Fiske, 1959).

Of particular importance in establishing the credibility of a method is the accuracy of detecting a treatment-related effect (Gad, 1989). Accuracy is a function of two interacting elements, specificity and sensitivity. Specificity is the ability of a test to respond positively only when the toxic endpoint of interest is present. Sensitivity is the ability to detect a change when present. This aspect depends on the inherent design of the procedure and experiment. Increasing the specificity of a test may reduce the possibility of classifying a chemical as neurotoxic when, in fact, it is not (false positive), but it may increase the probability of missing a true neurotoxicant (false negative). Increasing sensitivity of a test may reduce the possibility of false negatives, but may increase the probability of false positives.

4.1.3. Special Considerations in Animal Models

4.1.3.1. *Susceptible populations.* Like most other measures of toxicological effect, neurotoxic endpoints are subject to a number of experimental variables that may affect susceptibility to the biological effects of toxicants. In this regard, genetic variation (Festing, 1991) is a particularly important issue in neurotoxicology. For example, most neurotoxicological assessments are carried out with only one or two species. This may pose problems, however, since species may differ in sensitivity to neurotoxicants. For example, nonhuman primates are more sensitive than rats (Boyce et al., 1984) or mice (Heikkila et al., 1984) to the neurodegenerative effects of MPTP, a byproduct in the illicit synthesis of a meperidine analog (Langston et al., 1983). In the assessment of delayed neuropathology produced by some cholinesterase inhibitors, it is well known that hens are much more sensitive than rodents (Cavanagh, 1954; Abou-Donia, 1981, 1983). In addition, rat strains also may be differentially sensitive to some neurotoxicants (Moser et al., 1991). Although it is preferred that more than one species be tested, the cost required for routine multispecies testing must be considered. Whenever possible, the choice of animal models should take into account differences in species with regard to pharmacodynamic, genetic composition and sensitivity to neurotoxic agents.

In addition to species, other factors such as gender of the test animal must be taken into consideration. Some toxic substances may have a greater neurotoxicological effect in one gender (McKeown-Eyssen et al., 1983; Matthews et al., 1990). Thus, screening evaluations frequently require both male and female animals. Another important variable is the age of the animal (Veronesi et al., 1990). Whether a chemical produces neurotoxicity may depend on the maturational stage of the organism (Rodier, 1986). Most preliminary assessments are designed to provide information on adults, which have the greatest probability of being exposed. However, populations undergoing rapid maturation or aged individuals may be especially vulnerable to neurotoxic agents. Longitudinal studies that assess both genders at any stage of development address many of the problems associated with differentially sensitive populations.

4.1.3.2. *Dosing scenario.* The dosing strategy used in experimental studies is an important variable in the development and expression of neurotoxicity (WHO, 1986). Some neurotoxicants can produce neurotoxicity following a single exposure, while others require repeated dosing. Repeated dosing represents the typical pattern of human exposure to many chemical substances. Significant differences in response may occur when an acutely toxic quantity of material is administered over different exposure periods. For some neurotoxicants the onset of neurotoxicity can occur immediately after dosing, while others may require time after exposure for the

toxicity to develop. Effects of repeated exposure may result in a progressive alteration in nervous system function or structure, while latent or residual effects may be discovered only in association with age-related changes or after suitable environmental or pharmacological challenge (Zenick, 1983; MacPhail et al., 1983). To ensure adequate assessment of neurotoxicity, study designs should include multiple dosing regimens, e.g., repeated exposure, with appropriate dose-to-response intervals of testing.

4.1.3.3. *Other factors.* There are a number of other factors that should be considered in the design and interpretation of studies using animal models (WHO, 1986). Design factors include such issues as using properly trained personnel to conduct the studies, the use of appropriate numbers of animals per group to achieve reliable statistical significance, and controlling the time-of-day variability. Time of testing relative to exposure is also important for assessing neurotoxic endpoints such as behavior, and experiments should be designed to generate a time course of effects, including recovery of function, if any. Housing is an important environmental design factor, because animals housed individually and animals housed in groups can respond differently to toxic agents. Temperature, as an experimental variable, may also affect the outcome of neurotoxicological studies. The responsiveness to some chemicals (e.g., triethyltin, methamphetamine) varies with ambient temperature (Dyer and Howell, 1982; Bowyer et al., 1992). Some neurobiological endpoints, such as sensory evoked potentials, can be influenced by the endogenous temperature of the animal (Dyer, 1987). Therefore, changes in body temperature, whether due to fluctuations in ambient temperature or to some chemically induced effect such as inhibition of sweating, can confound the interpretation of measures such as evoked responses unless proper controls are included in the experimental design.

Because a variety of other physiological changes can influence neuronal functions, it is important to recognize that chemical-related neurotoxicity could result from treatment-induced physiological changes, such as altered nutritional state (WHO, 1986). As part of a neurotoxicological profile, correlative measures, such as relative and absolute organ weights, food and water consumption, and body weight and weight gain, may be signs of physiological change associated with systemic toxicity and may be useful in determining the relative contribution of general toxicity.

4.1.3.4. *Statistical considerations.* Experimental designs for neurotoxicological studies are frequently complex, with two or more major variables (e.g., gender, time of testing) varying in any single experiment. In addition, such studies typically generate varying types of data, including continuous, dichotomous, and rank-order data. Knowledge and experience in experimental design and statistical analyses are important. There are several key statistical concepts that should be understood in neurotoxicological studies (WHO, 1986; Gad, 1989). The power, or probability, of a study to detect a true effect is dependent on the size of the study group, the frequency of the outcome variable in the general population, and the magnitude of effect to be identified. Statistical evaluation of a treatment-related effect involves the consideration of two factors or types of errors to be avoided. A Type I error refers to the attribution of an exposure-related neurotoxicological effect when none has occurred (false positive), while a Type II error refers to the failure to attribute an effect when an exposure-related effect has actually occurred (false negative). In general, the probability of a Type I error should not exceed 5 percent and the probability of a Type II error should not exceed 20 percent. Power is defined as one minus the probability of a Type II error.

Determination of power also requires knowledge of the difference in magnitude of outcome measures observed between exposed and control groups and the variability of the outcome measure among subjects. The sample size required to achieve a given level of statistical power increases as variability increases or the difference between groups decreases.

Continuous data (i.e., magnitude, rate, amplitude), if found to be normally distributed, can be analyzed with a general linear model using a grouping factor of dose and, if necessary, repeated measures across time. Post hoc comparisons between control and other treatment groups can be made following tests for overall significance. In the case of multiple endpoints within a series of evaluations, correction for multiple observations (e.g., Bonferroni's) might be necessary.

Descriptive data (categorical) and rank data can be analyzed using standard nonparametric techniques. In some cases, if it is believed that the data fit the linear model, the categorical data modeling procedure can be used for weighted least-squares estimation of parameters for a wide range of general linear models, including repeated measures analyses. The weighted least-squares approach to categorical and rank data allows computation of statistics for testing the significance of sources of variation as reflected by the model. In the case of studies assessing effects in the same animals at several time points univariate analyses can be carried out at each time point when the overall dose effect or dose-by-time interaction is significant.

4.2. Tiered Testing in Neurotoxicology

The utility of tiered testing as an efficient and cost-effective approach to evaluate chemical toxicity, including neurotoxicity, has been recognized (NRC, 1975). Briefly, first-tier tests are designed to determine the presence or absence of neurotoxicity, while second-tier tests characterize the neurotoxic effect (NRC, 1992). There are at least two aspects of tiered testing, one involving the type of test used (Tilson, 1990a) and the other involving the dosing regimen (Goldberg and Frazier, 1989).

4.2.1. Type of Test

Tests designed to measure the presence or absence of an effect are usually different from those used to assess the degree of toxicity or the lowest exposure level required to produce an effect (Tilson, 1990a). Screening procedures are first-tier tests that typically permit the testing of large numbers of animals. Such procedures may not require extensive resources and are usually simple to perform. However, these techniques may be labor intensive, provide subjective measures, yield semiquantitative data, and may not be as sensitive to subtle effects as those designed to characterize neurotoxic effects or second-tier tests. Specialized tests are usually more sensitive and employed in studies concerning mechanisms of action or the estimation of the lowest effective dose. Such testing procedures are usually referred to as secondary tests and may require special equipment and more extensive resources. Secondary tests are usually quantitative and yield graded or continuous data amenable to routine parametric statistical analyses.

Testing at the first tier is used to determine if a chemical might produce neurotoxicity following exposure, i.e., hazard detection. In this case, there may be little existing information concerning the neurotoxic potential of an agent. Examples of first-tier tests include functional observational batteries (FOB), including an evaluation of motor activity and routine

neurohistopathology. For some chemicals or types of chemicals, there may be a specific interest in screening for a particular presumed mechanism of toxicity (e.g., inhibition of cholinesterase or neurotoxic esterase) or neurobiological response (e.g., a site-specific neuronal degeneration). In these cases, specific neurochemical or neuropathological endpoints can be used in conjunction with first-tier tests. Recently, the Office of Pesticide Programs (OPP) of the U.S. EPA (1991) published testing guidelines for a neurotoxicity screening battery consisting of an FOB that consists of several measures that are relatively simple, noninvasive, and quick to perform, motor activity, and neuropathology to support testing requirements under the Federal Insecticide, Fungicide, and Rodenticide Act. Such procedures are intended for use in acute and repeated dosing studies.

A decision to test at the next tier is based on data suggesting that an agent produces neurotoxicity. The information used to make a decision to test a chemical at the secondary level can come from a variety of sources, including neurotoxicological data already in the literature, structure-activity relationships, data from first-tier testing, or following reports of specific neurotoxic effects in humans exposed to the agent. Testing at the secondary level includes detailed neuropathological evaluation as well as specific behavioral tests, e.g., procedures to assess learning and memory, or sensory function. Tests at the second tier usually measure the most sensitive endpoints of neurotoxicity, and are the most suitable for determining the no observable adverse effect level or benchmark dose. At this stage of testing, the use of a second species is considered to address the issue of cross-species extrapolation.

4.2.2. Dosing Regimen

Goldberg and Frazier (1989) have indicated that first-tier evaluations identify effects of substances following acute or repeated exposure over a wide range of doses. Measures are simple, focused on detection of effects, and results are used to help establish parameters for the second tier of testing. The subsequent stage(s) of tier testing are designed to characterize more fully the toxicity of repeated dosing. In this case, animals are exposed repeatedly or continuously to define the scope of toxicity, including latent or delayed effects, development of tolerance, and the reversibility of adverse effects. The subsequent stage(s) of testing also provide information about specific effects or study mechanisms of neurotoxicity. This tier uses methods appropriate to characterize the effects observed in the first tier of testing.

4.3. Endpoints of Neurotoxicity

4.3.1. Introduction

As applied to the safety assessment of chemical substances, neurotoxicity is any adverse change in the development, structure, or function of the central and peripheral nervous system following exposure to a chemical agent (Tilson, 1990b). Measures used in animal neurotoxicological studies are designed to assess these changes. Neurotoxicity can be described at multiple levels of organization, including chemical, anatomical, physiological, or behavioral. At the chemical level, for example, a neurotoxic substance might inhibit protein or transmitter synthesis, alter the flow of ions across cellular membranes, or prevent release of neurotransmitter from nerve terminals. Anatomical changes may include destruction of the neuron, axon, or myelin sheath. At the physiological level, neuronal responsiveness to stimulation might be enhanced by a decrease of inhibitory thresholds in the nervous system. Chemical-induced effects at the behavioral level can involve a variety of alterations in motor, sensory, or cognitive function, including increases or decreases in frequency or accuracy of responding. Although behavioral and neurophysiological endpoints may be very sensitive indicators of neurotoxicity, they can be influenced by other factors. The uncertainties associated with data from functional endpoints can be reduced if interpreted within the context of other neurotoxicological measures (neurochemical or neuropathological) and systemic toxicity endpoints, particularly if such measures are taken concurrently. Table 4–1 provides examples of potential endpoints of neurotoxicity at the behavioral, physiological, chemical, and structural levels.

TABLE 4–1.—EXAMPLES OF POTENTIAL ENDPOINTS OF NEUROTOXICITY

Behavioral endpoints:
Absence or altered occurrence, magnitude, or latency of sensorimotor reflex
Altered magnitude of neurological measurements, such as grip strength or hindlimb splay
Increases or decreases in motor activity
Changes in rate or temporal patterning of schedule-controlled behavior
Changes in motor coordination, weakness, paralysis, abnormal movement or posture, tremor, ongoing performance
Changes in touch, sight, sound, taste, or smell sensations
Changes in learning and memory
Occurrence of seizures
Altered temporal development of behaviors or reflex responses
Autonomic signs
Neurophysiological endpoints:
Change in velocity, amplitude, or refractory period of nerve conduction
Change in latency or amplitude of sensory-evoked potential
Change in EEG pattern or power spectrum
Neurochemical endpoints:
Alterations in synthesis, release, uptake, degradation of neurotransmitters
Alterations in second messenger associated signal transduction
Alterations in membrane-bound enzymes regulating neuronal activity
Decreases in brain AChE
Inhibition of NTE
Altered developmental patterns of neurochemical systems
Altered proteins (c fos, substance P)
Structural endpoints:
Accumulation, proliferation, or rearrangement of structural elements
Breakdown of cells
GFAP increases (adult)
Gross changes in morphology, including brain weight
Discoloration of nerve tissue
Hemorrhage in nerve tissue

4.3.2. Behavioral Endpoints

Neurotoxicants produce a wide array of functional deficits, including motor, sensory, and learning or memory dysfunction (WHO, 1986; Tilson and Mitchell, 1984). Many procedures have been devised to assess overt as well as relatively subtle changes in those functions; hence their applicability to the detection of neurotoxicity and to hazard characterization. Many of the behavioral tests have been developed and validated with well-characterized neurotoxicants. Behavioral tests and agents that affect them have been reviewed recently (WHO, 1986; Cory-Slechta, 1989). Examples of such tests, the nervous system function being measured, and neurotoxicants known to affect these measures are listed in Table 4–2.

TABLE 4–2.—EXAMPLES OF SPECIALIZED TESTS TO MEASURE NEUROTOXICITY

Function	Procedure	Representative agents
Neuromuscular:		
Weakness	Grip strength; swimming endurance; suspension from rod; discriminative motor function; hindlimb splay.	N-hexane, Methyl butylketone, Carbaryl.
Incoordination	Rotorod, gait measurements	3-Acetylpyridine, Ethanol.
Tremor	Rating scale, spectral analysis	Chlordecone, Type I Pyrethroids, DDT.
Myoclonia, spasms	Rating scale, spectral analysis	DDT, Type II Pyrethroids.
Sensory:		
Auditory	Discriminated conditioning, reflex modification	Toluene, Trimethyltin.
Visual toxicity	Discriminated conditioning	Methyl mercury.
Somatosensory toxicity	Discriminated conditioning	Acrylamide.
Pain sensitivity	Discriminated conditioning (titration); functional observational battery	Parathion.
Olfactory toxicity	Discriminated conditioning	3-Methylindole methylbromide.
Learning/Memory:		
Habituation	Startle reflex	Diisopropyl-flurophosphate (DFP).
Classical conditioning	Nictitating membrane, conditioned flavor aversion, passive avoidance, olfactory conditioning.	Aluminum, Carbaryl, Trimethyltin, IDPN, Neonatal trimethyltin.
Operant or instrumental conditioning.	One-way avoidance, Two-way avoidance, Y-maze avoidance, Biel water maze, Morris water maze, Radial arm maze, Delayed matching to sample, Repeated acquisition, Visual discrimination learning.	Chlordecone, Neonatal lead, Hypervitaminosis A, Styrene, DFP, Trimethyltin, DFP, Carbaryl, Lead.

4.3.2.1. *Functional observational batteries.* Functional observational batteries are first-tier tests designed to detect and quantify major overt behavioral, physiological, and other neurotoxic effects (Moser, 1989). A number of batteries have been used (Tilson and Moser, 1992), each consisting of tests generally intended to evaluate various aspects of sensorimotor function. Most FOB are similar to clinical neurological examinations that rate presence or absence and, in some cases, the relative degree of neurological signs. A typical FOB, as summarized in Table 4–3, evaluates several functional domains, including neuromuscular (i.e., weakness, incoordination, gait, and tremor), sensory (i.e., audition, vision, and somatosensory), and autonomic (i.e., pupil response and salivation) function.

TABLE 4–3.—SUMMARY OF MEASURES IN THE FUNCTIONAL OBSERVATIONAL BATTERY AND THE TYPE OF DATA PRODUCED BY EACH

Home cage and open field	Manipulative	Physiologic
Posture (D)	Ease of removal (R).	Body temperature (I)
Convulsions, tremors (D).	Handling reactivity (R).	Body weight (I)
Palpebral closure (R).		
Lacrimation (R)	Approach response (R).	
Piloerection (Q)	Click response (R).	

TABLE 4–3.—SUMMARY OF MEASURES IN THE FUNCTIONAL OBSERVATIONAL BATTERY AND THE TYPE OF DATA PRODUCED BY EACH—Continued

Home cage and open field	Manipulative	Physiologic
Salivation (R)	Touch response (R).	
Vocalizations (Q).	Tail pinch response (R).	
Rearing (C)	Righting reflex (R).	
Urination (C)	Landing foot splay (I).	
Defecation (C)	Forelimb grip strength (I).	
Gait (D, R)	Hindlimb grip strength (I).	
Arousal (R)	Pupil response (Q).	
Mobility (R).		
Stereotypy (D).		
Bizarre behavior (D).		

D=descriptive data; R=rank order data; Q=quantal data; I=interval data; C=count data

The major advantages of FOB tests are that they can be administered within the context of other ongoing toxicological tests and provide some indication of the possible neurological alterations produced by exposure. Potential problems include insufficient interobserver reliability, difficulty in defining certain endpoints, and the tendency toward observer bias. The latter can be controlled by using observers unaware of the actual treatment of the subjects. FOB tests may not be very sensitive to agent-induced sensory loss (i.e., vision, audition) or alterations in cognitive or integrative processes such as learning and memory. For these reasons, data from FOB may not be suitable for determining no observable adverse effect levels. FOB data may be used to trigger experiments performed at the next tier of testing.

FOB data may be interval, ordinal, or continuous (Creason, 1989). The relevance of statistically significant test results from an FOB is judged according to the number of signs affected, the dose(s) at which neurotoxic signs are observed, and the nature, severity, and persistence of the effects. Data from the FOB may provide presumptive evidence of adverse effects and neurotoxicity. If only a few unrelated measures in the FOB are affected or the effects are unrelated to dose, there is less concern about neurotoxic potentials of a chemical. If dose is associated with other overt signs of toxicity, including systemic toxicity, large decreases in body weight, or debilitation, the data must be interpreted carefully. In cases where several related measures in a battery of tests are affected and the effects appear to be dose dependent, the level of concern about the potential of a chemical is higher.

4.3.2.2. *Motor activity.* Movement within a defined environment is a naturally occurring response and can be affected by environmental agents. Motor activity represents a broad class of behaviors involving coordinated participation of sensory, motor, and

integrative processes. Motor activity measurements are noninvasive and can be used to evaluate the effects of acute and repeated exposure to chemicals (MacPhail et al., 1989). Motor activity measurements have also been used in humans to evaluate disease states, including disorders of the nervous system (Goldstein and Stein, 1985). The assessment of motor activity is often included in first-tier evaluations, either as part of the FOB or as a separate quantitated measurement.

There are many different types of activity measurement devices, differing in size, shape, and method of movement detection (MacPhail et al., 1989). Because of the accuracy and ease of calibration, devices with photocells are widely used. In general, situating the apparatus to minimize extraneous noise, movements, or lights usually requires that the recording devices be placed in light- and sound-attenuating chambers during the testing period. A number of different factors, including age, gender, and time of day, can affect motor activity, and should be controlled or counterbalanced. Different strains of animals may have significantly different basal levels of activity, making comparisons across studies difficult. A major factor in activity studies is the duration of the testing session. Motor activity levels are generally highest at the beginning of the session and decrease to a low level throughout the session. The rate of decline during the test session is frequently termed "habituation."

Motor activity measurements are typically included as part of a battery of tests to detect or characterize neurotoxicity. Agent-induced alterations in motor activity associated with overt signs of toxicity (e.g., loss of body weight, systemic toxicity) or occurring in non-dose-related fashion are of less concern than changes that are dose dependent, related to structural or other functional changes in the nervous system, or occur in the absence of life-threatening toxicity and are generally convincing evidence of neurotoxicity.

4.3.2.3. *Neuromotor function.* Motor dysfunction is a common neurotoxic effect, and many different types of tests have been devised to measure time- and dose-dependent effects. Anger (1984) reported 14 motor effects of 89 substances, which could be classified into four categories: weakness, incoordination, tremor, and myoclonia or spasms. Chemical-induced changes in motor function can be determined with relatively simple techniques such as the FOB. More specialized tests to assess weakness include measures of grip strength, swimming endurance, suspension from a hanging rod, discriminative motor function, and hindlimb splay. Rotarod and gait assessments measure incoordination, while rating scales and spectral analysis techniques quantify tremor and other abnormal movements (Tilson and Mitchell, 1984).

An example of a second-tier procedure to assess motor function has been described by Newland (1988), who trained squirrel monkeys to hold a bar within specified limits (i.e., displacement) to receive positive reinforcement. The bar was also attached to a rotary device, which allowed measurement of chemical-induced tremor. Spectral analysis was used to characterize the tremor, which was found to be similar to that seen in humans exposed to neurotoxicants or with such neurologic diseases as Parkinson's disease.

Incoordination and performance changes can be assessed with procedures that measure chemical-induced alterations in force (Fowler, 1987). The accuracy of performance may reflect neuromotor function and is sensitive to the debilitating effects of many psychoactive drugs (Walker et al., 1981; Newland, 1988). Gait, an index of coordination, has been measured in rats under standardized conditions and can be a sensitive indication of specific damage to the basal ganglia and motor cortex (Hruska et al., 1979) as well as damage to the spinal cord and peripheral nervous system.

Procedures to characterize chemical-induced motor dysfunction have been used extensively in neurotoxicology. Most require preexposure training (including alterations of motivational state) of experimental animals, but such tests might be useful, in as much as similar procedures are often used in assessing humans.

4.3.2.4. *Sensory function.* Alterations in sensory processes (e.g., paresthesias and visual or auditory impairments) are frequently reported signs or symptoms in humans exposed to toxicants (Anger, 1984). Several approaches have been devised to measure sensory deficits. Data from tests of sensory function must be interpreted within the context of changes in body weight, body temperature, and other physiological endpoints. Furthermore, many tests assess the behavioral response of an animal to a specific sensory stimulus; such responses are usually motor movements that could be directly affected by chemical exposure. Thus, care must be taken to determine whether proper controls were included to eliminate the possibility that changes in response to a sensory stimulus may have been related to agent-induced motor dysfunction.

Several first-tier testing procedures have been devised to screen for overt sensory deficits. Many rely on orientation or the response of an animal to a stimulus. Such tests are usually included in the FOB used in screening (e.g., tail-pinch or click responses). Responses are usually recorded as being either present, absent, or changed in magnitude (Moser, 1989; O'Donoghue, 1989). Screening tests for sensory deficits are typically not suitable to characterize chemical-induced changes in acuity or fields of perception. The characterization of sensory deficits usually necessitates psychophysical methods that study the relationship between the physical dimensions of a stimulus and the behavioral response it generates (Maurissen, 1988).

One second-tier approach to the characterization of sensory function involves the use of reflex-modification techniques (Crofton, 1990). Chemical-induced changes in the stimulus frequency or threshold required to inhibit a reflex are taken as possible changes in sensory function. Prepulse inhibition has been used only recently in neurotoxicology (Fechter and Young, 1983) and can be used to assess sensory function in humans as well as in experimental animals.

Various behavioral procedures require that a learned response occur only in the presence of a specific stimulus (i.e., discriminated or conditioned responding). Chemical-induced changes in sensory function are determined by altering the physical characteristics of the stimulus (e.g., magnitude or frequency) and measuring the alteration in response rate or accuracy. In an example of the use of a discriminated conditional response to assess chemical-induced sensory dysfunction, Maurissen et al. (1983) trained monkeys to respond to the presence of a vibratory or electric stimulus applied to the fingertip. Repeated dosing with acrylamide produced a persistent decrease in vibration sensitivity; sensitivity to electric stimulation was unimpaired. That pattern of sensory dysfunction corresponded well to known sensory deficits in humans. Discriminated conditional response procedures have been used to assess the ototoxicity produced by toluene (Pryor et al., 1983) and the visual toxicity produced by methylmercury (Merigan, 1979).

Procedures to characterize chemical-induced sensory dysfunction have been used often in neurotoxicology. As in the case of most procedures designed to characterize nervous system dysfunction, training and motivational

factors can be confounding factors. Many tests designed to assess sensory function for laboratory animals can also be applied with some adaptation to humans.

4.3.2.5. *Learning and memory.* Learning and memory disorders are neurotoxic effects of particular importance. Impairment of memory is reported fairly often by adult humans as a consequence of toxic exposure. Behavioral deficits in children have been caused by lead exposure (Smith et al., 1989), and it is hypothesized (Calne et al., 1986) that chronic low-level exposure to toxic agents may have a role in the pathogenesis of senile dementia.

Learning can be defined as an enduring change in the mechanisms of behavior that results from experience with environmental events (Domjan and Burkhard, 1986). Memory is a change that can be either short-lasting or long-lasting (Eckerman and Bushnell, 1992). Alterations in learning and memory must be inferred from changes in behavior. However, changes in learning and memory must be separated from other changes in behavior that do not involve cognitive or associative processes (e.g., motor function, sensory capabilities, and motivational factors), and an apparent toxicant-induced change in learning or memory should be demonstrated over a range of stimuli and conditions. Before it is concluded that a toxicant alters learning and memory, effects should be confirmed in a second learning procedure. It is well known that lesions in the brain can inhibit learning. It is also known that some brain lesions can facilitate some types of learning by removing behavioral tendencies (e.g., inhibitory responses due to stress) that moderate the rate of learning under normal circumstances. A discussion of learning procedures and examples of chemicals that can affect learning and memory have appeared in recent reviews (Heise, 1984; WHO, 1986; Peele and Vincent, 1989).

One simple index of learning and memory, which can be measured as a first-tier endpoint, is habituation. Habituation is defined as a gradual decrease in the magnitude or frequency of a response after repeated presentations of a stimulus. A toxicant can affect habituation by increasing or decreasing the number of stimulus presentations needed to produce response decrements (Overstreet, 1977). Although habituation is a very simple form of learning, it can also be perturbed by a number of chemical effects not related to learning.

A more complicated approach to studying the effects of a chemical on learning and memory involves the pairing of a novel stimulus with a second stimulus that produces a known, observable, and quantifiable response (i.e., classical "Pavlovian" conditioning). The novel stimulus is known as the conditioned stimulus, and the second, eliciting stimulus is the unconditioned stimulus. With repeated pairings of the two stimuli, the conditioned stimulus comes to elicit a response similar to the response elicited by the unconditioned stimulus. The procedure has been used in behavioral pharmacology and, to a lesser extent, in neurotoxicology. Neurotoxicants that interfere with learning and memory would alter the number of presentations of the pair of stimuli required to produce conditioning or learning. Memory would be tested by determining how long after the last presentation of the two stimuli the conditioned stimulus would still elicit a response (Yokel, 1983). Other classically conditioned responses known to be affected by psychoactive or neurotoxic agents are conditioned taste aversion (Riley and Tuck, 1985) and conditioned suppression (Chiba and Ando, 1976).

Second-tier procedures to assess learning or memory typically involve the pairing of a response with a stimulus that increases the probability of future response through reinforcement. Response rate can be increased by using positive reinforcement or removing negative reinforcement. Learning is usually assessed by determining the number of presentations or trials needed to produce a defined frequency of response. Memory can be defined specifically as the maintenance of a stated frequency of response after initial training. Neurotoxicants may adversely affect learning by increasing or decreasing the number of presentations required to achieve the designated criterion. Decrements in memory may be indicated by a decrease in the probability or frequency of a response at some time after initial training. Toxicant-induced changes in learning and memory should be interpreted within the context of possible toxicant-induced changes in sensory, motor, and motivational factors. Examples of instrumental learning procedures used in neurotoxicology are repeated acquisition (Schrot et al., 1984), passive and active avoidance, Y-maze avoidance, spatial mazes (radial-arm maze), and delayed matching to sample (Heise, 1984; WHO, 1986; Tilson and Mitchell, 1984).

4.3.2.6. *Schedule-controlled behavior.* Another type of second-tier procedure is schedule-controlled operant behavior (SCOB), which involves the maintenance of behavior (performance) by response-dependent reinforcement (Rice, 1988). Different patterns of behavior and response rates are controlled by the relationship between response and later reinforcement. SCOB affords a measure of learned behavior and with appropriate experimental design may be useful for studying chemical-induced effects on motor, sensory, and cognitive function.

The primary endpoints for evaluation are agent-induced changes in response rate or frequency and the temporal pattern of responding. Response rate is usually related to an objective response, such as lever press or key peck, and differs according to the schedule of reinforcement. Response rates are expressed per unit of time. For some classes of chemicals, the direction of an effect on response rate can differ between low and high doses. Agent-induced changes in temporal pattern of responding can occur independently of changes in the rate and require analysis of the distribution of responses relative to reinforcement schedule.

SCOB has been used to study the effects of psychoactive drugs on behavior and is sensitive to many neurotoxicants, including methylmercury, solvents, pesticides, acrylamides, carbon monoxide, and organic and inorganic lead (Paule and McMillan, 1984; MacPhail 1985; Cory-Slechta, 1989; Rice, 1988). The experimental animal often serves as its own control, and the procedure provides an opportunity to study a few animals extensively over a relatively long period. SCOB typically requires motivational procedures, such as food deprivation, and training sessions are usually required to establish a stable baseline of responding. Because of its sensitivity to neuroactive chemicals, SCOB has great potential for use in second-tier assessments.

4.3.3. Neurophysiological Endpoints of Neurotoxicity

Neurophysiological studies are those that assess function either *directly* through measurements of the electrical activity of the nervous system (electrophysiology) or *indirectly* through measurements of peripheral organ functions controlled or modulated by the nervous system (general physiology) (Dyer, 1987). When performed properly, neurophysiological techniques provide information on the integrity of defined portions of the nervous system. Many of the endpoints used in animals have also been used in humans to determine chemical-induced alterations in neurophysiological function.

The term "electrophysiology" refers to the set of neurophysiological procedures that study neural function through the direct measurement of the electrical activity generated by the nervous system (Dyer, 1987). A variety of electrophysiological procedures are available for application to neurotoxicological problems, which range in scale from procedures that employ microelectrodes to study the function of single nerve cells or restricted portions of them, to procedures that employ macroelectrodes to perform simultaneous recordings of the summed activity of many cells. The latter types of procedures are more likely to be used in studies to detect or characterize the potential neurotoxicity of agents of regulatory interest. Several macroelectrode procedures are discussed below.

4.3.3.1. *Nerve conduction studies.* Nerve conduction studies are generally performed on peripheral nerves and can be useful in investigations of possible peripheral neuropathy. Most peripheral nerves contain mixtures of both individual sensory and motor nerve fibers, which may or may not be differentially sensitive to neurotoxicants. It is possible to distinguish sensory from motor effects in peripheral nerve studies by measuring activity in purely sensory nerves such as the sural to study sensory effects or by measuring the muscle response evoked by nerve stimulation to measure motor effects. While a number of endpoints can be recorded, the most commonly used variables are (1) nerve conduction velocity, (2) response amplitude, and (3) refractory period. In well-controlled studies, decreases in nerve conduction velocity typically are evidence of neurotoxicity (Dyer, 1987). While a decrease in nerve conduction velocity is a reliable measure of demyelination, it frequently occurs rather late in the course of axonal degradation because normal conduction velocity may be maintained for some time in the face of axonal degeneration. For this reason, a measurement of normal nerve conduction velocity does not necessarily rule out peripheral axonal degeneration if other signs of peripheral nerve dysfunction are present. Increases in conduction velocity of adult organisms following treatment with neurotoxic compounds, in the absence of hypothermia, are atypical responses and may, in fact, reflect experimental or statistical errors. Decreases in response amplitude reflect a loss of active nerve fibers, and may occur prior to decreases in conduction velocity in the course of peripheral neuropathy. Hence changes in response amplitude may be more sensitive measurements of axonal degeneration than conduction velocity. Measurements of response amplitude, however, are more variable and require careful experimental techniques, a larger sample size, and greater statistical power than measurements of velocity to detect changes. Alterations in peripheral nerve function are associated with abnormal peripheral sensations such as numbness, tingling, or burning or with motor impairments such as weakness. Examples of compounds that alter peripheral nerve function in humans or experimental animals include acrylamide, carbon disulfide, hexacarbons, lead, and some organophosphates.

4.3.3.2. *Sensory evoked potentials.* Sensory evoked potentials are electrophysiological procedures that involve measuring the response elicited by the presentation of a defined sensory stimulus such as a tone, a light, or a brief electrical pulse to the skin. Sensory evoked potentials reflect sensory function, and can be used to investigate visual, auditory, or somatosensory (body sensation) systems (Rebert, 1983; Mattsson and Albee, 1988). The data are in the form of a voltage record over time, which can be quantified in several ways. Commonly, the positive and negative voltage peaks are identified and measured as to their latency (time from stimulus onset) and amplitude (voltage).

Changes in peak amplitudes or equivalent measures reflect changes in the magnitude of the neural population that is responsive to stimulation. Both increases and decreases in amplitude are possible following exposure to neurotoxicants because (1) the brain normally operates in a careful balance between excitatory and inhibitory systems, and disruption of this balance can produce either positive or negative shifts in the voltages recorded in evoked potential experiments, and (2) excitatory or inhibitory neural activity is translated into a positive or negative deflection in the sensory evoked potential depending on the physical orientation of the electrode with respect to the tissue generating the response, which is frequently unknown. Within any given sensory system, the neural circuits that generate the different evoked potential peaks differ as a function of peak latency. In general, early latency peaks reflect the transmission of afferent sensory information, and changes in either the latency or amplitude of these peaks generally indicate a neurotoxic change that is likely to be reflected in deficits in sensory perception. The later latency peaks, in general, reflect not only the sensory input, but also the more nonspecific factors such as the behavioral state of the subject including such factors as arousal level, habituation, or sensitization. Thus, the neurotoxicological significance of changes in later latency evoked potential peaks must be interpreted in light of the behavioral status of the subject.

4.3.3.3. *Convulsions.* Observable behavioral convulsions in animals may be indicative of central nervous system seizure activity comparable to that of epilepsy in humans. However, behavioral convulsions that occur only at lethal or near lethal dose levels may reflect an indirect effect secondary to systemic toxicity and not directly on the nervous system. Convulsions occurring at dose levels that are clearly sublethal, and in the absence of apparent systemic toxicity, are more likely due to a direct effect on the nervous system. In such cases, neurophysiological recordings of electrical activity in the brain that are indicative of seizures may provide additional evidence of direct neurotoxicity. In addition to producing seizures, chemicals may also affect seizure susceptibility, altering the frequency, severity, duration, or threshold for eliciting seizures produced through other means. Such changes can occur after acute exposure or after repeated exposure to dose levels below the acute threshold, and are considered neurotoxic. Agents that produce convulsions include lindane, DDT, pyrethroids, and trimethyltin (WHO, 1986). Some agents, including many solvents, act to raise the threshold for eliciting seizures through other means or otherwise act to reduce the severity or duration of the elicited convulsions. These agents are difficult to classify as neurotoxic based on such data, but frequently have other effects on which a determination of neurotoxic potential can be based.

4.3.3.4. *Electroencephalography (EEG).* EEG analysis is used widely in clinical settings for the diagnosis of neurological disorders and less often for the detection of subtle toxicant-induced dysfunction (WHO, 1986; Eccles, 1988). The basis for the use of EEG in either setting is the relationship between specific patterns of EEG waveforms and specific behavioral states. Because states of alertness and the stages of sleep are associated with distinct patterns of electrical activity in the brain, it is generally thought that arousal level can be evaluated by monitoring the EEG. Dissociation of EEG activity and behavior can, however, occur after exposure to certain chemicals. Normal

patterns of transition between sleep stages or between sleeping and waking states are known to remain disturbed for prolonged periods of time following exposure to certain chemical classes (e.g., organophosphates). Changes in the pattern of the EEG can be elicited by stimuli producing arousal (e.g., lights, sounds) and neuroactive drugs. In studies with toxicants, changes in EEG pattern can sometimes precede alterations in other objective signs of neurotoxicity. EEG experiments must be done under highly controlled conditions, and the neurotoxicological significance of chemical-induced changes in the EEG in the absence of other signs of neurotoxicity must be considered on a case-by-case basis. Many chemicals, including metals, solvents, and pesticides, would be expected to affect the EEG.

4.3.3.5. *Electromyography (EMG).* EMG involves making electrical recordings from muscle and has been used extensively in human clinical studies in the diagnosis of certain diseases of the muscle (WHO, 1986). Changes in the EMG include amplitude and firing frequency of spontaneous firing; evoked muscle responses to nerve stimulation can be used to study alterations in the neuromuscular junction. EMG has been used to study toxicant-induced changes in neuromuscular function, including organophosphate insecticides, methyl n-butyl ketone, and botulinum and tetanus toxin.

4.3.3.6. *Spinal reflex excitability.* Segmental spinal monosynaptic and polysynaptic reflexes are relatively simple functions in the central nervous system that can be evaluated by quantitative techniques (WHO, 1986). Many of the procedures used in animals are similar to procedures used clinically to perform neurological tests in humans. One approach infers the functional state of a reflex arc from either the latency and magnitude of the reflex response evoked by stimuli of predetermined intensity or from the stimulus intensity required to elicit a detectable response (i.e., the threshold). This approach is used best in a screening context and the significance of effects in this test should be considered on a case-by-case basis. A second more involved approach records electrophysiologically the time required for a stimulus applied to a peripheral nerve to reach the spinal cord and return to the site of the original stimulation. Data from this procedure can indicate the excitability of the motoneuron pool, an effect seen with many volatile solvents. Although this approach is more invasive and time-consuming than the noninvasive procedure, it provides better data concerning the possible site of action. In addition, the manner in which the invasive procedure is carried out (i.e., in decerebrated animals) precludes repeated testing on the same animal. The significance of effects in this procedure should also be considered on a case-by-case basis.

4.3.4. Neurochemical Endpoints of Neurotoxicity

Neuronal function within the nervous system is dependent on synthesis and release of specific neurotransmitters and activation of their receptors in specific neuronal pathways. With few exceptions, neurochemical measurements are invasive and therefore used infrequently in human risk assessment. There are many different neurochemical endpoints that could be measured in neurotoxicological studies (Bondy, 1986; Mailman, 1987; Morell and Mailman, 1987). Neurotoxicants can interfere with the ionic balance of a neuron, act as a cytotoxicant after being transported into a nerve terminal, block uptake of neurotransmitter precursors, act as a metabolic poison, overstimulate receptors, block transmitter release, and inhibit transmitter degradation. Table 4–4 lists several chemicals with known neurochemical effects. Many neuroactive agents can increase or decrease neurotransmitter levels in the brain. Dose-related changes on these endpoints may indicate a chemical effect on the nervous system, but the neurotoxicological significance of such changes must be interpreted in the context of other signs of neurotoxicity.

TABLE 4–4. NEUROTOXICANTS WITH KNOWN NEUROCHEMICAL MECHANISMS

Site of attack	Examples
1. Neurotoxicants acting on ionic balance	
A. Inhibit sodium entry	Tetrodotoxin.
B. Block closing of sodium channel.	p,p'-DDT, pyrethroids (I).
C. Increase permeability to sodium.	Batrachotoxin.
D. Increase intracellular calcium.	Chlordecone.
2. Cytotoxicants—depend on uptake into nerve terminal.	MPTP.
3. Uptake blockers	Hemicholinium.
4. Metabolic poisons	Cyanide.
5. Receptor hyperactivators.	Domoic acid.
6. Transmitter release (ACh) blockers.	Botulinum toxin.
7. Transmitter degradation (ACh) inhibitors.	Organo- phosphates, carbamates.
8. Microtubule disruptors	Vincristine.

Some chemicals, such as the organophosphate and carbamate insecticides, are known to interfere with a specific enzyme, acetylcholinesterase (AChE) (Costa, 1988). Inhibition of this enzyme in brain may be considered evidence of neurotoxicity, whereas decreases in AChE in the blood, which can be easily determined in humans, are only suggestive of a neurotoxic effect. A subset of organophosphate agents produces organophosphate-induced delayed neuropathy (OPIDN) after acute or repeated exposure. Neurotoxic esterase (or neuropathy target enzyme, NTE) has been associated with agents that produce OPIDN (Johnson, 1990).

The ultimate functional significance of many biochemical changes is not known; therefore it may be difficult to determine if a specific biochemical change can be considered adverse or convincing evidence of neurotoxicity. Any such change, however, is potentially adverse and each determination of adversity requires a judgment to be made. Likewise, the absence of specific biochemical testing protocols does not mean biochemical changes are of no concern, but instead reflects a lack of understanding of the significance of changes at the biochemical level.

4.3.5. Structural Endpoints of Neurotoxicity

The central nervous system (brain and spinal cord) comprises nerve cells or neurons, which consist of a neuronal body, axon, and dendritic processes. Various types of neuropathological lesions may be classified according to the their nature or the site where they are found (WHO, 1986; Krinke, 1989; Griffin, 1990). Lesions may be classified as neuropathy (changes in the neuronal body), axonopathy (changes in the axons), myelinopathy (changes in the myelin sheaths), neurodegeneration (changes in the nerve terminals), and peripheral neuropathy (changes in the peripheral nerves). For axonopathies, a more precise location of the changes should be described (i.e., proximal, central, or distal axonopathy). In some cases, agents produce neuropathic conditions that resemble naturally occurring neurodegenerative disorders in humans (WHO, 1986). Table 4–5 lists examples of such chemicals, their known site of action, the type of neuropathology produced, and the disease or condition that each typifies.

TABLE 4–5. EXAMPLES OF KNOWN NEUROPATHIC AGENTS

Site of attack	Neuropathology	Corresponding neurotoxicant	Disease or neurodegenerative condition
Neuron cell body	Neuronopathy	Methylmercury	Minamata disease
		A.E.T.T.	Ceroid lipofuscinoses
		Quinolinic acid	Huntington's disease
		3-acetylpridine	Cerebellar ataxia
		Aluminum	Alzheimer's disease
Nerve terminal	Neurodegeneration	MPTP	Parkinson's disease
Schwann cell myelin	Myelinopathy	Lead Buckthorn toxin	Neuropathy of metachromatic leukodystrophy
Central-peripheral distal axon	Distal axonopathy	Acrylamide	Vitamin deficiency
		Hexacarbons	
		Carbon disulfide	
Central axons	Central axonopathy	Clioquinol	Subacute myelooptico-neuropathy
Proximal axon	Proximal axonopathy	B,B'-imminodi-proprionitrile	Motor neuron disease

In general, chemical effects lead to two types of primary cellular alteration: (1) the accumulation, proliferation, or rearrangement of structural elements (e.g., intermediate filaments, microtubules) or organelles (mitochondria) and (2) the breakdown of cells, in whole or in part. The latter can be associated with regenerative processes that may occur during chemical exposure. Such changes are considered to be neurotoxic.

While most neurotoxic damage is evident at the microscopic level, gross changes in morphology can be reflected by a significant change in the weight of the brain. Weight changes (absolute or relative to body weight), discoloration, discrete or massive cerebral hemorrhage, or obvious lesions in nerve tissue are generally considered neurotoxic effects.

Chemical-induced injury to the central nervous system is associated with astrocytic hypertrophy at the site of damage. Assays of glial fibrillary acidic protein (GFAP), the major intermediate filament protein of astrocytes, has been proposed as a biomarker of this response (O'Callaghan, 1988). A number of chemicals known to injure the central nervous system, including trimethyltin, methylmercury, cadmium, 3-acetylpyridine, and MPTP, have been shown to increase GFAP. In addition, increases in GFAP may be seen at dosages below those necessary to produce cytopathology as determined by Nissl-based stains used in standard neuropathological examinations. Because increases in GFAP may be an early indicator of neuronal injury in the adult, treatment-dependent increases in GFAP may be considered as a neurotoxic effect.

Chemical-induced alterations in the structure of the nervous system are generally considered neurotoxic effects. To ensure reliable data, it is important that neuropathological studies minimize fixation artifacts and potential differences in the section(s) of the nervous system sampled and control for variability due to the age, sex, and body weight of the subject (WHO, 1986).

4.3.6. Developmental Neurotoxicity

Exposure to chemicals during development can result in effects other than death, gross structural abnormality, or altered growth. There are several instances in which functional alterations have resulted from exposure during the period between conception and sexual maturity (Riley and Vorhees, 1986; Vorhees, 1987). Table 4–6 lists several examples of chemicals known to produce developmental neurotoxicity in experimental animals. Animal models of developmental neurotoxicity have been shown to be sensitive to several environmental chemicals known to produce developmental toxicity in humans, including lead, ethanol, methylmercury, and PCBs (Kimmel et al., 1990).

TABLE 4–6. PARTIAL LIST OF AGENTS BELIEVED TO HAVE DEVELOPMENTAL NEUROTOXICITY

Alcohols	Methanol, ethanol.
Antimitotics	X-radiation, azacytidine.
Insecticides	DDT, kepone, organophosphates.
Metals	Lead, methylmercury, cadmium.
Polyhalogenated hydrocarbons.	PCB, PBB.
Psychoactive drugs	Cocaine, phenytoin.
Solvents	Carbon disulfide, toluene.
Vitamins	Vitamin A.

Sometimes functional defects are observed at dose levels below those at which other indicators of developmental toxicity are evident (Rodier, 1986). Such effects may be transient or reversible in nature, but generally are considered adverse effects. Data from postnatal studies, when available, are considered useful for further assessment of the relative importance and severity of findings in the fetus and neonate. Often, the long-term consequences of adverse developmental outcomes noted at birth are unknown and further data on postnatal development and function are necessary to determine the full spectrum of potential developmental effects. Useful data also can be derived from well-conducted multigeneration studies, although the dose levels used in these studies may be much lower than those in studies with shorter-term exposure.

Much of the early work in developmental neurotoxicology was related to behavioral evaluations. Recent advances in this area have been reviewed in several publications (Riley and Vorhees, 1986; Kimmel et al., 1990). Several expert groups have focused on the functions that should be included in a behavioral testing battery, including sensory systems, neuromotor development, locomotor activity, learning and memory, reactivity and habituation, and reproductive behavior. No testing battery has fully addressed all of these functions, but it is important to include as many as possible, and several testing batteries have been developed and evaluated for use in testing.

Direct extrapolation of functional developmental effects to humans is limited in the same way as for other endpoints of developmental toxicity, i.e., by the lack of knowledge about underlying toxicological mechanisms and their significance. It can be assumed that functional effects in animal studies indicate the potential for altered development in humans, although the types of developmental effects seen in experimental animal studies will not necessarily be the same as those that

may be produced in humans. Thus, when data from functional developmental toxicity studies are encountered for particular agents, they should be considered in the risk assessment process.

Agents that produce developmental neurotoxicity at a dose that is not toxic to the maternal animal are of special concern because the developing organism is affected but toxicity is not apparent in the adult. More commonly, however, adverse developmental effects are produced only at doses that cause minimal maternal toxicity; in these cases, the developmental effects are still considered to represent developmental toxicity and should not be discounted as secondary to maternal toxicity. At doses causing excessive maternal toxicity (that is, significantly greater than the minimal toxic dose), information on developmental effects may be difficult to interpret and of limited value. Current information is inadequate to assume that developmental effects at maternally toxic doses result only from maternal toxicity; it may be that the mother and developing organism are sensitive to that dose level. Moreover, whether developmental effects are secondary to maternal toxicity or not, the maternal effects may be reversible while effects on the offspring may be permanent. These are important considerations for agents to which humans may be exposed at minimally toxic levels either voluntarily or involuntarily, because several agents are known to produce adverse developmental effects at minimally toxic doses in adult humans (e.g., smoking, alcohol).

Although interpretation of functional developmental neurotoxicity data may be limited at present, it is clear that functional effects must be evaluated in light of other toxicity data, including other forms of developmental toxicity (e.g., structural abnormalities, perinatal death, and growth retardation). The level of confidence in an adverse effect may be as important as the type of change seen, and confidence may be increased by such factors as replicability of the effect either in another study of the same function or by convergence of data from tests that purport to measure similar functions. A dose-response relationship is considered an important measure of chemical effect; in the case of functional effects, both monotonic and biphasic dose-response curves are likely, depending on the function being tested.

4.3.7. Physiological and Neuroendocrine Endpoints

One of the key roles played by the nervous system is to orchestrate the general physiological functions of the body to help maintain homeostasis. To this end, the nervous system and many of the peripheral organ systems are integrated and functionally interdependent. For example, specific neuronal processes are intimately involved in maintaining or modulating respiration, cardiovascular function, body temperature, and gastrointestinal function. Because many peripheral organ functions involve neuronal components, changes in such physiological endpoints as blood pressure, heart rate, EKG, body temperature, respiration, lacrimation, or salivation may indirectly reflect possible treatment-related effects on the functional integrity of the nervous system. However, since physiological endpoints also depend on the integrity of the related peripheral organ itself, changes in physiological function also may reflect a systemic toxicity involving that organ. Consequently, the neurotoxicological significance of a physiological change must be interpreted within the context of other signs of toxicity. A variety of general physiological procedures can be applied to neurotoxicological problems. These procedures range in scale from simple measurements, for example, of body temperature, respiration, lacrimation, salivation, urination, and defecation, which may be included in routine functional observational batteries used for chemical screening, to more involved procedures involving measurements of blood pressure, endocrine responses, cardiac function, gastrointestinal function, etc. The latter would be more appropriate for second-level tests to characterize the scope of chemically related toxicity.

The central nervous system also regulates the outflow of the endocrine system, which together with the influence of the autonomic nervous system, can affect immunologic function (WHO, 1986). Hormonal balance results from the integrated action of the hypothalamus, located in the central nervous system, and the pituitary, which regulates activities of endocrine target organs. Each site is susceptible to disruption by neurotoxic agents. Neuroendocrine dysfunction may occur because of a disturbance in the regulation and modulation of the neuroendocrine feedback systems. One major indicator of neuroendocrine function is secretions of hormones from the pituitary. Hormones from the anterior pituitary are important for reproduction (follicle-stimulating hormone, luteinizing hormone), growth (thyroid-stimulating hormone), and response to stress (adrenocorticotropic hormone). Hypothalamic control of anterior pituitary secretions occurs through the release of hypothalamic-hypophysiotropic hormones. Hormones from the posterior hypothalamus (prolactin, melanocyte-stimulating hormone, and growth hormone) are also involved in a number of important bodily functions.

Many types of behaviors (e.g., reproductive behaviors, sexually dimorphic behaviors) are dependent on the integrity of the hypothalamic-pituitary system, which could represent an important site for neurotoxic action. Pituitary secretions arise from a number of different cell types in this gland and neurotoxicants could affect these cells either directly or indirectly. Morphological changes in follicular cells, chromophobe cells, somatotropic cells, prolactin cells, gonadotropic cells, follicle-stimulating hormone secreting cells, luteinizing hormone-containing cells, thyrotropic cells, and cortico cells might be associated with adverse effects on the pituitary, which could ultimately affect behavior and the functioning of the nervous system.

Biochemical changes in the hypothalamus also may be used as indices of potential changes in neuroendocrine function. However, the neuroendocrine significance of changes in hypothalamic neurotransmitters and neuropeptides is usually only inferential and data must be considered on a case-by-case basis.

Most anterior pituitary hormones are subject to negative feedback control by peripheral endocrine glands and, if neurotoxicants modify peripheral secretions, neuroendocrine changes can result from this altered feedback. Modifications in the functioning of these endocrine secretions could occur after toxic exposure; a number of agents have been shown to alter blood levels of glucocorticoids, thyroxine, estrogen, corticosterone, and testosterone. Although such changes are not necessarily due to direct neuroendocrine effects, target organ changes often can be a first indication of neuroendocrine changes.

4.3.8. Other Considerations

4.3.8.1. *Structure-activity relationship.* Because of a general lack of epidemiologic or toxicologic data on most chemical substances, attempts have been made in toxicology to predict activities based on chemical structure. The basis for inference from structure-

activity relationships (SARs) can be either comparison with structures known to have biologic activity or knowledge of structural requirements of a receptor or macromolecular site of action. However, given the complexity of the nervous system and the lack of information on biologic mechanisms of neurotoxic action, there are relatively few well-characterized SARs in neurotoxicology. Since SARs cannot be used to rule out all neurotoxic activity, it is not acceptable to use them as a basis for excluding potential neurotoxicity. Caution is warranted in interpreting SARs in anything other than the most preliminary analyses. Use of SARs requires detailed knowledge not only of structure, but also of each critical step in the pathogenetic mechanism of neurotoxic injury. Such knowledge is still generally unavailable.

SAR approaches are more successful when the range of possible sites of action or mechanisms of action is narrow. Thus, SARs have had more use in relation to carcinogenicity and mutagenicity than in other kinds of toxicity. The SAR approaches used in the development of novel neuropharmacologic structures deserve consideration in neurotoxicology, but their utility depends on a better understanding of neurotoxic mechanisms.

4.3.8.2. *In vitro methods.* In vitro procedures for testing have practical advantages, but studies must be done to correlate the results with responses in whole animals. One advantage of validated in vitro tests is that they minimize the use of live animals. Some of the more developed in vitro tests might be simple and might not have to be conducted by highly trained personnel, but, as with many in vivo tests, the analysis and interpretation of results are likely to require expertise. Experience with the Ames test for mutagenesis confirms the advantages of in vitro procedures, but also illustrates the problems that arise when an assay is used to predict an endpoint that is not exactly what it measures (e.g., carcinogenicity rather than specific aspects of genotoxicity).

A broad range of tissue-culture systems are available for assessing the neurologic impact of environmental agents, including cell lines, dissociated cell cultures, reaggregate cultures, explant cultures, and organ cultures (Veronesi, 1991).

Neuronal and glial cell lines are used extensively in neurobiology and have potential for neurotoxicological studies. They consist of populations of continuously dividing cells that, when treated appropriately, stop dividing and exhibit differentiated neuronal or glial properties. Neuronal lines can develop electric excitability, chemosensitivity, axon formation, neurotransmitter synthesis and secretion, and synapse formation. Large quantities of cells can be generated routinely to develop extensive dose-response or other quantitative data.

When neural tissue, typically from fetal animals, is dissociated into a suspension of single cells, and the suspension is inoculated into tissue-culture dishes, the neurons and glia survive, grow, and establish functional neuronal networks. Such preparations have been made from most regions of the CNS and exhibit highly differentiated, site-specific properties that constitute an in vitro model of different portions of the CNS. Most of the neuronal transmitter and receptor phenotypes can be demonstrated, and a variety of synaptic interactions can be studied. Glial cells are also present, and neuroglial interactions are a prominent feature of the cultures. A substantial battery of assays (neurochemical and neurophysiologic) is now available to assess the development of the cultures and to indicate toxic effects of test agents added to the culture medium. Relatively pure populations of different cell types can be isolated and cultured, so that effects on specific cell types can be assessed independently. Pure glial cells or neurons, or even specific neural categories, can be prepared in this way and studied separately, or interaction between neurons and glial cells can be studied at high resolution. The neurobiologic measures used to assess the effect of any agent can be very specific (for example, activity of neurotransmitter-related enzyme or binding of a receptor ligand) or global (for example, neuron survival or concentration of glial fibrillary acidic protein). The two-dimensional character of the preparations makes them particularly suited for morphologic evaluation, and detailed electrophysiologic studies are readily performed. The toxic effects and mechanisms of anticonvulsants, excitatory amino acids, and various metals and divalent cations have been assessed with these preparations. The cerebellar granular cell culture system, for example, has been exploited recently in studies of the mechanism of alkyllead toxicity (Verity et al., 1990).

A related preparation made from single-cell suspensions of neural tissue is the reaggregate culture. Instead of being placed in culture dishes and allowed to settle onto the surface of the dishes, the cells are kept in suspension by agitation; under appropriate conditions, they stick to one another and form aggregates of controllable size and composition. Typically, the cells in an aggregate organize and exhibit intercellular relations that are a function of, and bear some resemblance to, the brain region that was the source of the cells. The cells establish a three-dimensional, often laminated structure. Reaggregate cultures lend themselves to large-scale, quantitative experiments in which neurobiologic variables can be examined, although morphologic and ligand-binding studies are performed less readily than with surface cultures.

Organotypic explant cultures also are closely related to the intact nervous system. Small pieces or slices of neural tissue are placed in culture and can be maintained for long periods with substantial maintenance of structural and cell-cell relations of intact tissue. Specific synaptic relations develop and can be maintained and evaluated, both morphologically and electrophysiologically. Because all regions of the nervous system are amenable to this sort of preparation, it is possible to analyze toxic agents that are active only in specific regions of the central or peripheral nervous system. Explants can be made from relatively thin slices of neural tissue, so detailed morphologic and intracellular electrophysiologic studies are possible. Their anatomic integrity is such that they capture many of the cell-cell interactions characteristic of the intact nervous system while allowing a direct, continuing evaluation of the effects of a potentially neurotoxic compound added to the culture medium. The process of myelination has been studied extensively in explant cultures, and considerable neurotoxicologic information has been gained. A preparation similar to an explant culture is the organ culture, in which an entire organ, such as the inner ear or a ganglion, rather than slices or fragments, is grown in vitro. Obviously, only structures so small that their viability is not compromised can be treated in this way.

In general, the technical ease of maintaining a culture varies inversely with the degree to which it captures a spectrum of in vivo characteristics of nervous system behavior. The problem of biotransformation of potentially neurotoxic compounds is shared by all, although the more complete systems (explant or organ cultures) might alleviate this problem in specific instances. In many culture systems, complex and ill-defined additives—such as fetal calf serum, horse serum, and human placental serum—are used to promote cell survival. A number of

thoroughly described synthetic media are now available, however, and such fully defined culture systems can be used where necessary.

5. Neurotoxicology Risk Assessment

5.1. Introduction

Risk assessment is an empirically based process used to estimate the risk that exposure of an individual or population to a chemical, physical, or biological agent will be associated with an adverse effect. Generally, such effects can be quantified and the relative probability of their occurrence can be calculated. The risk assessment process usually involves four steps: Hazard identification, dose-response assessment, exposure assessment, and risk characterization (NRC, 1983). Risk management is the process that applies information obtained through the risk assessment process to determine whether the assessed risk should be reduced and, if so, to what extent (NRC, 1983). In some cases, risk is the only factor considered in a decision to regulate exposure to a substance. Alternatively, the risk posed by a substance is sometimes weighed against social, ethical, and medical benefits and economic and technological factors in formulating a risk management decision. The risk-balancing approach is used by some agencies to consider the benefits as well as the risks associated with unrestricted or partially restricted use of a substance. The purpose of this chapter is to describe the risk assessment process as it has currently evolved in neurotoxicology and present available options for quantitative risk assessment.

5.2. The Risk Assessment Process

5.2.1. Hazard Identification

Agents that adversely affect the neurophysiological, neurochemical, or structural integrity of the nervous system or the integration of nervous system function expressed as modified behavior may be classified as neurotoxicants (Tilson, 1990b). For hazard identification, the best or most generalizable studies to determine these endpoints would be measured in humans. With the exclusion of therapeutic agents, information on effects in humans is usually derived from case reports of accidental exposures and epidemiological studies. This type of data affords less certainty regarding generalizability as well as less specific exposure information. As discussed in chapter 4, a common alternative method of data generation for hazard identification is the use of animal models. Animal models that measure behavioral, neurophysiological, neurochemical, and structural effects have been developed and validated. Studies that employ these models to evaluate specific potential hazards are used to predict the outcome of exposure to the same hazard in humans.

5.2.1.1. *Human studies.* Information obtained through the evaluation of human exposure data provides direct identification of neurotoxic hazards. This type of information is generally available from clinical trials required for the approval of therapeutic products for human use. For the purposes of risk assessment of nontherapeutic substances, data on effects of exposure to humans come primarily from two types of studies, case reports and epidemiological (Friedlander and Hearn, 1980) (see chapter 3). Case studies can supply evidence of an agent's toxicity, but are often limited by both the qualitative nature of the signs and symptoms reported and the nature of the exposure data. Epidemiological studies can provide data on the types of neurotoxic effects and the possible susceptibilities of certain populations. Under appropriate considerations, they can generally provide convincing and reliable evidence of potential human neurotoxicity. As with case studies, however, often only qualitative estimates of exposure can be obtained. Controlled laboratory studies have the potential to provide adequate exposure and effects data for accurate hazard identification, but ethical considerations place moral and practical restrictions on such studies except in those instances where direct benefit to the subjects, as in the case of therapeutic agents, may be expected. Excluding instances of therapeutic product development, most studies are limited to measuring the effects of acute, rather than long-term, exposure. This limits their utility in risk assessment because the effect of long-term, low-level exposure to a potentially toxic agent is often the issue of concern.

Methods available to evaluate neurotoxicity in humans include examination of neurophysiological and behavioral parameters. Specific tests to measure neuromuscular strength and coordination, alterations in sensation, deficits in learning and memory, changes in mood and personality, and disruptions of autonomic function are frequently employed (see chapter 3).

5.2.1.2. *Animal studies.* As discussed in chapter 4, animal models for many endpoints of neurotoxicity are available and widely used for hazard identification. Data from animal studies are frequently extrapolated to humans. For example, if exposure to an agent produces neuropathology in an animal model, damage to a comparable structure in humans is predicted. Similarly, biochemical and physiological effects observed in animals are commonly extrapolated to humans. Agents that produce alterations in the levels of specific enzymes in one animal species generally have the same effect in other species, including humans. Neurophysiological endpoints also tend to be affected by the same manipulations across species. Thus, an agent interfering with nerve conduction in an animal study is often assumed to have the same effect in humans. Behavioral studies in animals are also applied to human hazard identification, although the correspondence between methods employed in animals and humans is sometimes not as obvious. For this reason, behavioral methods developed for neurotoxic hazard identification need to be considered on a case-by-case basis.

5.2.1.3. Special Issues

5.2.1.3.1. Animal-to-human extrapolation. The use of animal data to identify hazard to humans is not without controversy. Relative sensitivity across species as well as between sexes is a constant concern. Overly conservative risk assessments, based on the assumption that humans are always more sensitive than a tested animal species, can result in poor risk management decisions. Conversely, an assumption of equivalent sensitivity in a case where humans actually are more sensitive to a given agent can result in underregulation that might have a negative impact on human health.

5.2.1.3.2. Susceptible populations. A related controversy concerns the use of data collected from adult organisms, animal or human, to predict hazards in potentially more sensitive populations, such as the very young and the elderly, or in other groups, such as the chronically ill. In some cases, identification of neurotoxicity hazard does not generally include subjects from either end of the human life span or from other than healthy subjects. Uncertainty factors are used to adjust for more sensitive populations. In addition, single or multigeneration reproductive studies in animals may provide a source of information on neurological disorders, behavioral changes, autonomical dysfunction, neuroanatomical anomalies, and other signs of neurotoxicity in the developing animal (chapter 4).

5.2.1.3.3. Reversibility. For the most part, the basic principles of hazard identification are the same for neurotoxicity as for any adverse effect on health. One notable exception,

however, concerns the issue of reversibility and the special consideration that must be given to the inherent redundancy and plasticity of the nervous system.

Except for these instances where truly reversible effects are produced (e.g., enzyme down regulation, receptor or membrane transporter reversible blockade), the nervous system can be compared to a "trust fund" issued at birth. Assets can be drawn for various purposes over a lifetime, but none can be added. For many health effects, temporary, as opposed to permanent, effects are repaired during a true recovery. Damage to many organ systems, if not severe, can be spontaneously repaired. For example, damaged liver cells that may result in impaired liver function often can be replaced with new cells that function normally. The resulting restoration of liver function can be viewed as recovery. In the central nervous system, cells generally do not recover from severe damage and new cells do not replace them. When nervous system recovery is observed, it may represent compensation requiring activation of cells that were previously performing some other function, reactive synaptogenesis, or recovery of moderately injured cells. While a damaged liver may recover due to the addition of new cells, severe damage to nervous system cells results in a net loss of cells. This loss of compensatory capacity may not be noticed for many years and, when it does appear, it may be manifest in a way seemingly unrelated to the original neurotoxic event. Lack of ability to recover from a neurotoxic event later in life or premature onset of signs of normal aging may result. It is therefore important to consider the possibility that significant damage to the nervous system may have occurred in experiments where effects appear to be reversible.

5.2.1.3.4. Weight of evidence. A "weight of evidence" approach to identifying an agent as a neurotoxic hazard is almost always necessary. With the exception of therapeutic products, a single, complete, controlled study of an agent's effects on the nervous system, conducted in an appropriate representative sample of humans, is rarely, if ever, possible. Rather, those individuals charged with identifying hazard are usually confronted with a collection of imperfect studies, often providing conflicting data (Barnes and Dourson, 1988).

There are several possible approaches, depending on the quality of the evidence. Two examples are the use of data from only the most sensitive species tested and the use of data from only species responding most like the human for any given endpoint. In assessing neurotoxicity of therapeutic products, when human data are available and neurotoxic endpoints detected in animals can be clinically measured, the human findings supersede those of the nonclinical data base. Assuming that all available evidence is to be included, considerations necessary for formulating a conclusion include the relative weights that should be given tc positive and negative studies. Sometimes positive studies are given more weight than negative ones, even when the quality of the studies is comparable. Experimental design factors such as the species tested, the number and gender of subjects evaluated, and the duration of the test are given different weights when data from different studies are combined. The route of exposure in a given study and its relevance to expected routes of human exposure are often a weighted factor. The issue of statistical significance is frequently debated. Some argue that an effect occurring at a statistically insignificant level may nevertheless represent a biologically or toxicologically significant event, and should be afforded the same weight as if the finding were statistically significant. In general, however, only statistically significant measures should be considered in hazard identification. The power of various statistical measures is also considered.

5.2.2. Dose-Response Assessment

In the second step of the risk assessment process, the dose-response assessment, the relationship between the extent of damage or toxicity and dose of a toxic substance for various conditions of exposure is determined. Because several different kinds of responses may be elicited by a single agent, more than one dose-response relationship may need to be developed (e.g., neurochemical and morphological parameters).

When quantitative human dose-effect data are not available for a sufficient range of exposures, other methods must be used to estimate exposure levels likely to produce adverse effects in humans. In the absence of human data, the dose-response assessment may be based on tests performed in laboratory animals. Evidence for a dose-response relationship is an important criterion in assessing neurotoxicity, although this may be based on limited data from standard studies that often use only three dose groups and a control group (Barnes and Dourson, 1988).

The most frequently used approach for risk assessment of neurotoxicants and other noncancer endpoints is the uncertainty- or safety-factor approach (Barnes and Dourson, 1988; Kimmel, 1990). For example, within the EPA, this approach involves the determination of reference doses (RfDs) by dividing a no observed adverse effect level (NOAEL) by uncertainty factors that presumably account for interspecies differences in sensitivity (Barnes and Dourson, 1988). Generally, an uncertainty factor of 10 is used to allow for the potentially higher sensitivity in humans than in animals and another uncertainty factor of 10 is used to allow for variability in sensitivity among humans. Hence, the RfD is equal to the NOAEL divided by 100. If the NOAEL cannot be established, it is replaced by the lowest observed adverse effect level (LOAEL) in the RfD calculation and an additional uncertainty factor of 10 is introduced (i.e., the RfD equals the LOAEL divided by 1000).

If more than one effect is observed in the animal bioassays, the effect occurring at the lowest dose in the most sensitive animal species and gender is generally used as the basis for estimating the RfD (OTA, 1990). Sometimes, different RfDs can be calculated, depending on endpoint or species selected. Selection of safety factors may be influenced by several considerations, including data available from humans, weight of evidence, type of toxic insult, and probability of variations in responses among susceptible populations (e.g., very young or very old). Established guidelines have been accepted by several agencies that use the safety-factor approach to account for intraspecies variability, cross-species extrapolation, and exposure duration. In some instances, comparisons between these predicted values and experimental data have been conducted and the results appear comparable for some selected examples (Dourson and Stara, 1983; McMillan, 1987).

The uncertainty-factor approach is based on the assumption that a threshold does exist, that there is a dose below which an effect does not change in incidence or severity. The threshold concept is complicated and controversial. As described by Sette and MacPhail (1992), there are several different ways in which the term threshold is used. Thresholds are defined, in part, by the limit of detection of an assay. As the sensitivity of the analytical method or bioassay is improved, the threshold might be adjusted downward, indicating that the

true threshold had not been previously determined.

Another problem inherent with an observation of no discernible effects at low doses is that it is impossible to determine whether the risk is actually zero (i.e., the dose is below a threshold dose) or whether the statistical resolving power of a study is inadequate to detect small risks (Gaylor and Slikker, 1992). Every study has a statistical limit of detection that depends on the number of individuals or animals involved. For example, it would be relatively unusual to conduct an experiment on a neurotoxicant with as many as 100 animals per dose. If no deleterious effects were observed in 100 animals at a particular dose, it might be concluded that this dose level is below the threshold dose. However, we can only be 95 percent confident that the true risk is less than 0.03. That is, if 3 percent of the animals in a population actually develop a toxic effect at this dose, there is a 5 percent chance that a group of 100 animals would not show any effect. The observation of no toxic effects in an extremely large sample of 1,000 animals only indicates with 95 percent confidence that the true risk is less than 0.003, etc. Because thresholds cannot be realistically demonstrated, they are therefore assumed.

The notion of threshold may be useful in explaining mechanisms associated with specific types of toxicity. What little is known about mechanisms of neurotoxicity suggests that both threshold and nonthreshold scenarios are possible (Silbergeld, 1990). However, for one of the most studied neurotoxicants, lead, there has been a steady decline in exposure levels shown to have effects, suggesting to some that no threshold dose is apparent (Bondy, 1985). Sette and MacPhail (1992) also consider the threshold as a mathematical assumption and as a population sensitivity and conclude that "the idea of no threshold seems experimentally untestable * * *"

The RfD approach relies on single experimental observations (the NOAEL or LOAEL) instead of complete dose-response curve data to calculate risk estimations. Chemical interactions with biological systems are often specific, stereoselective, and saturable. Examples include enzyme-substrate binding leading to substrate metabolism, transport, and receptor-binding, any or all of which may be a requirement of an agent's effect or toxicity. Therefore, a chemical's dose-response curve may not be linear. The certainty of low-dose extrapolation has been determined to be markedly affected by the shape of the dose-response curve (Food and Drug Administration Advisory Committee on Protocols for Safety Evaluation, 1971). Therefore, the appropriate use of dose-response curve data should enhance the certainty of risk estimations when thresholds are not assumed or determined.

Dose-response models have generated considerable interest as more appropriate and quantitative alternatives to the safety-factor approach in risk assessment. Rather than routinely applying a "fixed" safety factor to the NOAEL (based on a single dose) to obtain a "safe" dose, another approach uses data from the entire dose-response curve.

Two fundamentally different approaches in the use of dose-response data to estimate risk have been developed. Dews and coworkers (Dews, 1986; Glowa and Dews, 1987; Glowa et al., 1983) and Crump (1984) demonstrated an approach in which they used information on the shape of the dose-response curve to estimate levels of exposure associated with relatively small effects (i.e., a 1, 5, or 10 percent change in a biological endpoint). Both Dews and Crump fit a mathematical function to the data and provided an estimate of the variability in exposure levels associated with a relatively small effect.

An alternative approach developed by Gaylor and Slikker (1990) first establishes a mathematical relationship between a biological effect and the dose of a given chemical. The second step determines the distribution (variability) of individual measurements of biological effects about the dose-response curve. The third step statistically defines an adverse or "abnormal" level of a biological effect in an untreated population. The fourth step estimates the probability of an adverse or abnormal level as a function of dose utilizing the information from the first three steps. The advantages of these dose-response models are that they encourage the generation and use of data needed to define a complete dose-response curve.

Although more quantitative dose-response assessment models have emerged in recent years, uncertainty remains as to what biological endpoints from which species with what dosing regimen should be analyzed. Within a species, a given agent may produce a variety of effects, including neurochemical, neuropathological, and behavioral effects. In other instances, a chemical may produce alterations of one endpoint but not others (Slikker et al., 1989). Species selection may also dramatically affect the outcome of risk assessments. The Parkinson-like syndrome produced by single doses of MPTP in the human or nonhuman primate is not observed in rats given comparable MPTP doses (Kopin and Markey, 1988). Although endpoint and species selection appear to have a tremendous effect on the outcome of an assessment, only a few studies have systematically investigated the effect on assessment outcome of varying either the species or the endpoint within a species (McMillan, 1987; Hattis and Shapiro, 1990; Gaylor and Slikker, 1992).

5.2.3. Exposure Assessment

This step of the risk assessment process determines the source, route, dose, and duration of human exposure to an agent. The results of the dose-response assessment are combined with an estimate of human exposure to obtain a quantitative estimate of risk. As either the effect of or the exposure to an agent approaches zero, the risk of neurotoxicity approaches zero.

Exposure can occur via many routes, including ingestion, inhalation, or contact with skin. Sources of exposure may include soil, food, air, water, or intended vehicle (e.g., drug formulation). The degree of exposure may be strongly influenced by a number of factors, for example, the occupation of the individual involved.

The duration of exposure (i.e., acute or chronic) and interval of exposure (i.e., episodic or continuous) are variables of exposure that are common to all types of risk assessments, including carcinogenicity (OSTP, 1985).

Although not routinely used, biological markers or biomarkers of exposure could theoretically improve the exposure assessment process and, thereby, improve the overall risk assessment of neurotoxicants. Exposure biomarkers may include either the quantitation of exogenous agents or the complex of endogenous substances and exogenous agents within the system (Committee on Biological Markers, 1987). A limited number of examples of biomarkers of exposure have been reviewed by Slikker (1991) and include blood or dentine lead concentrations (Needleman, 1987), cerebrospinal fluid concentrations of dopamine metabolites following MPTP administration (Kopin and Markey, 1988), cerebrospinal fluid concentrations of a serotonin metabolite following MDMA exposure (Ricaurte et al., 1986), and serum esterase concentrations following organophosphate exposure (Levine et al., 1986). The use of muscarinic receptor binding in peripheral plasma lymphocytes has also been described as a potential biomarker of exposure for

the organophosphates (Costa et al., 1990). These examples suggest that biomarkers of exposure are available for some agents, but more effort will be required to demonstrate that these biomarkers can routinely be used to improve the exposure assessment process.

5.2.4. Risk Characterization

The final step of the risk assessment process combines the hazard identification, the dose-response assessment, and the exposure assessment to produce the characterization of risk. As previously stated, the current practice is to divide the NOAEL by the appropriate safety factor to obtain the RfD. The magnitudes of the safety factors used to determine RfDs [interspecies extrapolation (10), intraspecies extrapolation (10), and acute vs. chronic exposure (10) = 1000] are based more on conservative estimates than on actual data (Sheehan et al., 1989; McMillan, 1987) and have been questioned for empirical reasons (Gaylor and Slikker, 1990). Along with this RfD numerical value, any uncertainties and assumptions inherent in the risk assessment should also be stated (OTA, 1990). Although the RfD provides a single numerical value, it does not provide information concerning the uncertainty of this number nor does the RfD approach attempt to estimate the potential risk as a function of dose or consider the potential risk at the NOAEL. The risk at the NOAEL generally is greater than zero and has been estimated to be as high as about 5 percent (Crump, 1984; Gaylor, 1989). Concern has been expressed that the application of the RfD approach to all neurotoxicants is unlikely to be biologically defensible in light of mechanistic data (NRC, 1992). Several other quantitative risk assessment procedures have recently emerged as alternatives to the RfD approach (Kimmel and Gaylor, 1988).

Quantitative risk assessment may be defined as a data-based process that uses dose-response information and measurements of human exposure to arrive at estimates of risk. Assumptions are required to extrapolate results from high to low doses, to extrapolate from animal results to humans, and to extrapolate across different routes and durations of exposure.

In a step toward quantitative risk assessment, Crump (1984) suggested the use of a benchmark dose defined as "a statistical lower confidence limit corresponding to a small increase in effect over the background level." The benchmark dose is determined with a mathematical model and is less affected by the particular shape of the dose-response curve. Although the benchmark approach avoids several problems inherent in the RfD approach (e.g., lack of precision in defining the LOAEL; Kimmel, 1990), the same final step of dividing by arbitrary safety factors is obligatory.

Another approach to quantitative risk assessment is the statistical or curve-fitting approach. If quantal information concerning the proportion of response at a given dose is available but mechanistic information is lacking, statistical models can be used to fit population data (Wyzga, 1990). This approach has been used to fit various models to data of lead toxicity. The data were sufficient to allow discrimination of several models in terms of goodness of fit; the nerve-conduction velocity data from children exposed to environmental lead as a function of blood lead concentration fit a "hockey-stick" type dose-response curve rather than a logistic or quadratic model (Schwartz et al., 1988). These statistical approaches not only provide a method to extrapolate data to lower exposure conditions but also can provide circumstantial evidence to support a proposed mechanism of action.

The development of quantitative risk assessment approaches depends, in part, on the availability of information on the mechanism of action and pharmacokinetics of the agent in question. In the development of a biologically based, dose-response model for MDMA neurotoxicity, Slikker and Gaylor (1990) considered several factors, including the pharmacokinetics of the parent chemical, the target tissue concentrations of the parent chemical or its bioactivated proximate toxicant, the uptake kinetics of the parent chemical or metabolite into the target cell and membrane interactions, and the interaction of the chemical or metabolite with presumed receptor site(s). Because these theoretical factors contain a saturable step due to limited amounts of required enzyme, reuptake, or receptor site(s), a nonlinear, saturable dose-response curve was predicted. In this case of neurochemical effects of MDMA in the rodent, saturation mechanisms were hypothesized and indeed saturation curves provided relatively good fits to the experimental results. The conclusion was that use of dose-response models based on plausible biological mechanisms provide more validity to prediction than purely empirical models. Concomitant with attempts to develop quantitative risk assessment procedures, it is imperative that regulatory policy or risk management procedures also be developed to use appropriately the type of data generated by quantitative risk assessment. However, until alternative risk assessment procedures have been validated, the available RfD approach with its limitations will most likely continue to be used.

5.3. Generic Assumptions and Uncertainty Reduction

The purpose of risk assessment is to determine the risk associated with human exposure to a hazard. The quality of the data from toxicological studies differs. In the case of therapeutic products where human effects information is available, risk assessments rely primarily on the result of controlled clinical trials. Even when clinical trial data are available, however, conducting a risk assessment is complicated by many uncertainties. In the face of these uncertainties, conservative assumptions are usually made at several steps in the risk assessment process. For example, unless adequate clinical data are available, the most sensitive experimental species is frequently used. While conservative assumptions may lead to a risk assessment that adequately protects the human population, this may result in an increased financial burden on the public (e.g., manufacturing costs or loss of jobs); even then it is impossible to be certain that the total population will be protected. Conversely, errors leading to allowable exposure levels that are too high reduce the safety margin for human health and increase health care costs. Thus, there are compelling public health and economic reasons to obtain more precise risk assessments; all assumptions cannot be completely eliminated, but the degree of uncertainty associated with certain specific assumptions can at least be reduced (Sheehan et al., 1989).

Risk assessment for neurotoxicity shares many common features with other noncancer toxicities such as developmental toxicity and immunotoxicity. As such, there are several generic assumptions that apply to all traditional, noncancer endpoint risk assessment procedures (Table 5–1).

TABLE 5–1.—GENERAL ASSUMPTIONS THAT UNDERLIE TRADITIONAL RISK ASSESSMENTS [a,b]

1. A threshold dose exists for noncancer endpoints.
2. NOAEL/LOAEL uncertainty- or safety-factor approaches are reasonable.
3. Variability in the toxic response to the chemical exposure is not due to a heterogeneous population response.
4. Average dose or total dose is a reasonable measure of exposure when doses are not equivalent in time, rate, or route of administration and the average (or total) dose is proportional to adverse effect.
5. Structure-activity correlations can be used to predict human toxicity.
6. The mechanism of action is the same at all doses for all species.

[a] This is not intended to be an exhaustive list.

[b] Modified from Sheehan et al., 1989.

One approach to reducing some of the uncertainties is to critically define and examine the assumptions made in the risk assessment process. Several of the more generic of these assumptions are listed in Table 5–1. Despite their diversity, these assumptions share the attribute of being partially replaceable by factual information. If, for example, the assumption of 100 percent absorption of a toxicant from a contaminated food source is replaced by data demonstrating that 90 percent of the toxicant is not biologically available under human exposure conditions, then a revised risk assessment could allow a 10-fold greater exposure from that source; i.e., the former risk assessment was too conservative by a factor of 10. As another example, many risk assessments employ data from two species.

If experimental animals and humans absorb or metabolize the same fraction of a dose, the potency estimate would not change when extrapolating from animals to humans. Therefore, it is necessary to have information on both human and animal rates before changes in potency estimates are made. If a toxicant acts via a reactive intermediate and humans produce 10-fold more of the intermediate than either of the test species under similar conditions, then allowable human exposure should be decreased 10-fold (i.e., the allowable exposure levels are 10-fold too high) or an increased danger to human health exists. These findings could then replace the "most sensitive species" principle with facts concerning relevant human exposure and susceptibility. In these examples, the identification of the assumption helps define research needs or knowledge gaps (Sheehan et al., 1989).

In general, the knowledge gaps are many and complex, but some can be filled with practical solutions. The combination of ample dose-response data and a quantitative risk assessment process can eliminate assumptions 1 (existence of a threshold) and 2 (reasonableness of safety factors) of the six generic assumptions (Table 5–1). The uncertainty of assumption 4 (exposure comparisons) could be at least reduced with the proper application of appropriate pharmacokinetic data. Likewise, the uncertainty of generic assumption 3 (variability of heterogeneous populations) can theoretically be reduced with the use of biomarkers of exposure to define more accurately exposure in a large population.

Many assumptions remain, however, and uncertainty reduction by filling knowledge gaps will ultimately require greater understanding of biological mechanisms underlying neurotoxicity. A single risk assessment model may not be adequate for all conditions of exposure, for all endpoints, or for all agents. Risk assessment models of the future may well include biomarkers of both effect and exposure as well as biologically based mechanistic considerations derived from both epidemiologic and experimental test system data.

6. General Summary

It is now generally accepted that some chemicals, including industrial agents, pesticides, therapeutic agents, drugs of abuse, food-related chemicals, and cosmetic ingredients, can have adverse effects on the structure and function of the nervous system. It has recently been proposed that exposure to neurotoxicants might also be associated with Parkinsonism and Alzheimer's disease. Several Federal agencies have initiated research programs in neurotoxicology, developed neurotoxicology testing guidelines, and used neurotoxic endpoints to regulate chemicals in the environment and workplace.

The scientific basis for identifying and characterizing chemical-induced neurotoxicity has advanced rapidly during the last several years. The manifestation of neurotoxicity depends on the relationship between exposure (applied dose) and the dose at the site of toxic action (delivered or target dose) and response. Chemical-induced changes in the structure or function of the nervous system at the cellular or molecular level can be observed as alterations in sensory, motor, or cognitive function at the level of the whole organism. Several important features about the nervous system make it particularly vulnerable to chemical insult, including differential susceptibilities at different stages of maturation, the presence of blood brain and nerve barriers that may be the target of toxic action, high metabolic rate, and limited regenerative capability following damage.

Methods devised to detect and quantify agent-induced changes in nervous system function in humans include clinical evaluations and neurotoxicity testing methods such as neurobehavioral, neurophysiological, neurochemical, imaging, and self-reporting procedures. Experimental approaches used in human neurotoxicology include epidemiological studies and, to a limited extent, human laboratory exposure studies. There are several important unresolved issues in human neurotoxicology, including the development of commonly accepted risk assessment criteria and animal-to-human extrapolation.

It is generally assumed that if physical or chemical-induced neurotoxicity is observed in animal models, then neurotoxicity will be produced in humans. Considerable research has been performed to demonstrate the validity of many animal models in an experimental context and to show predictive validity. Methods in animal neurotoxicology are frequently used in a tier-testing framework with simpler, more cost-effective tests to screen or identify neurotoxic potential. In hazard identification, the presence of neurotoxicity at the first tier is used to make decisions about subsequent development of a chemical or about the need to conduct additional experiments to define the level at which neurotoxicity will be observed. A number of methods have been devised for studies in animal neurotoxicology, including neurobehavioral, neurophysiological, neurochemical, and neuroanatomical techniques. It is known that the neuroendocrine system may be affected adversely by neurotoxicants and that there are populations that are differentially vulnerable to neurotoxic agents. Considerable research is in progress to employ structure-activity relationships to predict neurotoxicity and newly developed in vitro procedures are being used to augment or complement currently existing in vivo approaches.

Principles of risk assessment for neurotoxicity are evolving rapidly. At the present time, neurotoxicity risk assessment is generally limited to qualitative hazard identification. Neurotoxicological risk assessments

have been generally based on a no observed adverse effect level and uncertainty factors. As with other noncancer endpoints, there is a need to consider more information about the shape of the dose-response curve and mechanisms of effect in quantitative neurotoxicology risk assessment. Research is needed to develop dose-response models that incorporate biologic information and mechanistic hypotheses into quantitative extrapolation of dose-response relationships across species and from high to low dose exposures.

7. References

Abou-Donia MB. Organophosphorus ester-induced delayed neurotoxicity. Ann Rev Pharmacol Toxicol 1981; 21:511–548.

Abou-Donia MB. Toxicokinetics and metabolism of delayed neurotoxic organophosphorous esters. Neurotoxicology 1983; 4:113–130.

Aibara K. Introduction to the Diagnosis of Mycotoxicosis. In: Richards JL, Thurston JR, eds. Diagnosis of Mycotoxicoses. Dordrecht, Netherlands: Martinus Nijhoff Publishers, 1986:3–8.

Altmann J, Schardt H, Wiegand H. Selective effects of acute repeated solvent exposure on the visual system. Arbete och Halsa 1991; 35:67–69.

Andersen ME, Clewell HJ, Gargas ML, MacNaughton MG, Reitz RH, Nolan RJ, McKenna MJ. Physiologically based pharmacokinetic modeling with dichloromethane, its metabolite, carbon monoxide, and blood carboxyhemoglobin in rats and humans. Toxicol Appl Pharmacol 1991; 108:14–27.

Anderson-Brown T, Slotkin TA, Seidler FJ. Cocaine acutely inhibits DNA synthesis in developing rat brain regions: evidence for direct actions. Brain Res 1990; 537:197–202.

Anger WK. Neurobehavioral testing of chemicals; impact on recommended standard. Neurobehav Toxicol Teratol 1984; 6:147–153.

Anger WK. Worksite behavioral research: results, sensitive methods, test batteries and the transition from laboratory data to human health. Neurotoxicology 1990a; 11:629–720.

Anger WK. Human neurobehavioral toxicology testing. In: Russell RW, Flattau PE, Pope AM, eds. Behavioral Measures of Neurotoxicity. Washington, DC: National Academy Press, 1990b.

Anger WK. Animal test systems to study behavioral dysfunctions of neurodegenerative disorders. Neurotoxicology 1991; 12:403–414.

Anger WK, Setzer JV. Effects of oral and intramuscular carbaryl administrations on repeated chain acquisition in monkeys. J Toxicol Environ Health 1979; 5:793–808.

Annau Z, Eccles CU. Prenatal exposure. In: Annau A, ed. Neurobehavioral Toxicology. Baltimore: Johns Hopkins University Press, 1986:153–169.

Atterwill CK, Walum E. Neurotoxicology in vitro: model systems and practical applications. Toxic In Vitro 1989; 3:159–161.

Bacon CW, Bennett RM, Hinton DM. Scanning electron microscopy of Fusarium moniliforme within asymptomatic corn kernels and kernels associated with leukoencephalomalacia. Plant Disease 1992; 76:144–148.

Baker EL, Letz RE, Fidler AT, Shalat S, Plantamura D, Lyndon M. A computer based neurobehavioral evaluation system for occupational and environmental epidemiology: methodology and validation studies. Neurobehav Toxicol Teratol 1985; 7:369–377.

Barbeau A, Roy M, Bernier G, Campanella G, Paris S. Ecogenetics of Parkinson's disease: prevalence and environmental aspects in rural areas. Can J Neurol Sci 1987; 14:36–41.

Barnes DG, Dourson M. Reference dose (RfD): description and use in health risk assessments. Regul Toxicol Pharmacol 1988; 8:471–486.

Beaumont JG. Neurobehavioral tests: problems, potential, and prospects. In: Russell RW, Flatteau PE, Pope AM, eds. Behavioral Measures of Neurotoxicity. Washington, DC: National Academy Press, 1990.

Bellinger D, Leviton A, Waterneaux C, Needleman H, Rabinowitz M. Longitudinal analyses of prenatal and postnatal lead exposure and early cognitive development. N Engl J Med 1987; 316:1037–1043.

Berde B, Schield HO. Ergot alkaloids and related compounds. In: Handbook of Experimental Pharmacology. Berlin, Heidelberg, New York: Springer-Verlag, 1978:49.

Bhattacharyya TK, Dayal VS. Ototoxicity and noise-drug interaction. J Otolaryngol 1984; 13:361–366.

Bidstrup PL. Toxicity of Mercury and Its Compounds. Amsterdam: Elsevier Scientific Publishing Company, 1964.

Boettcher FA, Henderson D, Gratton MA, Danielson RW, Byrne CD. Synergistic interactions of noise and other ototraumatic agents. Ear Hear 1987; 8:192–212.

Bondy SC. Special considerations for neurotoxicological research. CRC Crit Rev Toxicol 1985; 14:381–402.

Bondy SC. The biochemical evaluation of neurotoxic damage. Fund Appl Toxicol 1986; 6:208–216.

Bove FJ. The Story of Ergot. Basel, Switzerland: S. Karger AG, 1970.

Bowyer JF, Tank AW, Newport GD, Slikker W, Ali SF, Holson RR. The influence of environmental temperature on the transient levels of methamphetamine on dopamine levels and dopamine release in rat striatum. J Pharmacol Exp Ther 1992, in press.

Boyce S, Kelly E, Reavill C, Jenner P, Marsen CD. Repeated administration of N-methyl-4-phenyl-1,2,5,6-tetra-hydropyridine to rats is not toxic to striatal dopamine neurons. Biochem Pharmacol 1984; 33:1747–1752.

Brady LS, Barrett JE. Drug-behavior interaction history: modification of the effects of morphine on punished behavior. J Exp Anal Behav 1986; 45:221–228.

Calne DB, Eisen A, McGeer E, Spencer PS. Alzheimer's disease, Parkinson's disease, and motoneurone disease: a biotrophic interaction between ageing and environment? Lancet 1986; II(8515):1067–1070.

Cannon SB, Veazsy JM, Jackson RS, Burse VW, Hayes C, Straub WE, Landrigan PJ, Liddle JA. Epidemic kepone poisoning in chemical workers. Am J Epidemiol 1978; 107:529–537.

Campbell DT, Fiske DW. Convergent and discriminant validation by the multitrain-multimethod matrix. Psychol Bull 1959; 56:81–91.

Cassells DAK, Dodds EC. Tetra-ethyl lead poisoning. Brit Med J 1946; 2:4479–4483.

Cassitto MG, Camerino D, Hanninen H, Anger WK. International collaboration to evaluate the WHO neurobehavioral core test battery. In: Johnson B, Anger WK, Durao A, Xintaras C, eds. Advances in Neurobehavioral Toxicology: Applications in Environmental and Occupational Health. Chelsea: Lewis Publishers, 1990.

Cavanagh JB. The toxic effects of tri-ortho-cresyl phosphate on the nervous system: an experimental study on hens. J Neurol Neurosurg Psychiat 1954; 17:163–172.

Centers for Disease Control (CDC). Preventing lead poisoning in young children. U.S. Department of Health and Human Services, Centers for Disease Control, Atlanta, GA, 1991.

Chang LW. Mercury. In: Spencer PS, Schaumburg HH, eds. Experimental and Clinical Neurotoxicology. Baltimore: Williams and Wilkins, 1980:508–526.

Chiba S, Ando K. Effects of chronic administration of kanamycin on conditioned suppression to auditory stimulus in rats. Jpn J Pharmacol 1976; 26:41–426.

Choi DW. Glutamate neurotoxicity and diseases of the nervous system. Neuron 1988; 1:623–634.

Committee on Biological Markers of the National Research Council. Biological markers in environmental health research. Environ Health Perspect 1987; 74:3–9.

Cone JE, Reeve GR, Landrigan PJ. Clinical and epidemiological studies. In: Tardiff RG, Rodricks JV, eds. Toxic Substances and Human Risk. New York: Plenum Press, 1987.

Cook DG, Fahn S, Brait KA. Chronic manganese intoxication. Arch Neurol 1974; 30:59–71.

Cory-Slechta DA. Behavioral measures of neurotoxicity. Neurotoxicology 1989; 10:271–296.

Cory-Slechta DA. Bridging experimental animal and human behavioral toxicology studies. In: Russell RW, Flattau PE, Pope AM, eds. Behavioral Measures of Neurotoxicity. Washington, DC: National Academy Press, 1990.

Costa LG. Interactions of neurotoxicants with neurotransmitter systems. Toxicology 1988; 49:359–366.

Costa LG, Kaylor G, Murphy SD. In vitro and in vivo modulation of cholinergic muscarinic receptors in rat lymphocytes and brain by cholinergic agents. Int J Immunopharmacol 1990; 8:1267–75.

Creason JP. Data evaluation and statistical analysis of functional observational battery data using a linear models approach. J Am Coll Toxicol 1989; 8:157–169.

Crofton KM. Reflex modification and the detection of toxicant-induced auditory dysfunction. Neurotoxicol Teratol 1990; 12:461–468.

Crook T, Ferris S, Bartus R, eds. Assessment in Geriatric Psychopharmacology. New Canaan, NY: Mark Powley Associates, 1983.

Crump KS. A new method for determining allowable daily intakes. Fund Appl Toxicol 1984; 4:854–871.

Cushner IM. Maternal behavior and perinatal risks: alcohol, smoking, and drugs. Ann Rev Pub Health 1981; 2:201–218.

Damstra T, Bondy SC. The current status and future of biochemical assays for neurotoxicity. In: Spencer PS, Schaumburg HH, eds. Experimental and Clinical Neurotoxicity. Baltimore: Williams and Wilkins, 1980:820–833.

Davies PW. The action potential. In: Mountcastle VB, ed. Medical Physiology, 12th edition. St. Louis: C.V. Mosby, 1968:1094–1120.

Davis CS, Richardson RJ. Organophosphorous compounds. In: Spencer PS, Schaumburg HH, eds. Experimental and Clinical Neurotoxicology. Baltimore: Williams and Wilkins, 1980:527–544.

Denny-Brown D, Dawson DM, Tyler HR. Handbook of Neurological Examination and Case Recording (3rd ed). Cambridge: Harvard University Press, 1982.

Dews PB. On the assessment of risk. In: Krasnegor N, Gray J, Thompson T, eds. Developmental Behavioral Pharmacology. Hillsdale, NJ: Lawrence Erlbaum Associates, 1986:53–65.

Dick RB, Johnson BL. Human experimental studies. In: Annau Z, ed. Neurobehavioral Toxicology. Baltimore: Johns Hopkins University Press, 1986.

Dick RB, Bhattacharya A, Shukla R. Use of a computerized postural sway measurement system for neurobehavioral toxicology. Neurotoxicol Teratol 1990; 12:1–6.

Domjan M, Burkhard B. The Principles of Learning and Memory. Monterey, CA: Cole, 1986.

Dourson ML, Stara JF. Regulatory history and experimental support of uncertainty (safety) factors. Regul Toxicol Pharmacol 1983; 3:224–238.

Dyer RS. Macrophysiological assessment of organometal neurotoxicity. In: Tilson H, Sparber SB, eds. Neurotoxicants and Neurobiological Function. New York: Wiley, 1987:137–184.

Dyer RS, Howell WE. Triethyltin: ambient temperature alters visual system toxicity. Neurobehav Toxicol Teratol 1982; 4:267–271.

Eccles CU. EEG correlates of neurotoxicity. Neurotoxicol Teratol 1988; 10:423–428.

Eckerman DA, Bushnell PJ. The neurotoxicology of cognition: Attention, learning and memory. In: Tilson H, Mitchell CL, eds. Neurotoxicology. New York: Raven Press, 1992:213–270.

Eckerman DA, Caroll JB, Foree D, Gullion CM, Lansman M, Long ER, Waller MB, Wallsten TS. An approach to brief field testing for neurotoxicity. Neurobehav Toxicol Teratol 1985; 7:387–393.

Ecobichon DJ, Joy RM. Pesticides and Neurologic Disease. Boca Raton: CRC Press, 1982.

Fechter LD, Young JS. Discrimination of auditory from non-auditory toxicity by reflex modification audiometry: effects of triethyltin. Toxicol Appl Pharmacol 1983; 70:216–227.

Festing MFW. Genetic factors in neurotoxicology and neuropharmacology: a critical evaluation of the use of genetics as a research tool. Experientia 1991; 12:1877–1888.

Fisher F. Neurotoxicology and government regulation of chemicals in the United States. In: Spencer PS, Schaumburg HH, eds. Experimental and Clinical Neurotoxicology. Baltimore: Williams and Wilkins, 1980:874–882.

Food and Drug Administration Advisory Committee on Protocols for Safety Evaluation: Panel on carcinogenesis report on cancer testing in the safety evaluation of food additives and pesticides. Toxicol Appl Pharmacol 1971; 20:419–438.

Fowler SC. Force and duration of operant response and dependent variables in behavioral pharmacology. In: Thompson T, Dews PB, eds. Advances in Behavioral Pharmacology. New York: Erlbaum, 1987.

Freed DM, Kandel E. Long-term occupational exposure and the diagnosis of dementia. Neurotoxicology 1988; 9:391–400.

Friedel RO. Pharmacokinetics in the geropsychiatric patient. In: Lipton, M., Usdin, E., Killam, K., eds. Psychopharmacology: A Generation of Progress. New York: Raven Press, 1978.

Friedlander BR, Hearn HT. Epidemiologic considerations in studying neurotoxic disease. In: Spencer PS, Schaumburg HH, eds. Experimental and Clinical Neurotoxicology. Baltimore: Williams and Wilkins, 1980:650–662.

Fullerton PM. Electrophysiological and histological observations on peripheral nerves in acrylamide poisoning in man. J Neurol Neurosurg Psychiat 1969; 32:186.

Gad SC. Principles of screening in toxicology with special emphasis on applications to neurotoxicology. J Am Coll Toxicol 1989; 8:21–27.

Gallagher RT, Hawkes AD, Steyn PS, Vlleggaar R. Tremorgenic neurotoxins from perennial ryegrass causing ryegrass staggers disorders of livestock: structure and elucidation of Lolitrem. Chem Soc Chem Comm 1984; 18:614–616.

Gaylor DW. Quantitative risk analysis for quantal reproductive and developmental effects. Environ Health Perspect 1989; 79:243–246.

Gaylor DW, Slikker W Jr. Risk assessment for neurotoxic effects. Neurotoxicology 1990; 11:211–218.

Gaylor D, Slikker W Jr. Risk assessment for neurotoxicants. In: Tilson H, Mitchell C, eds. Neurotoxicology. New York: Raven Press, 1992:331–343.

Glowa JR, Dews PB. Behavioral toxicology of volatile organic solvents. IV. Comparison of the behavioral effects of acetone, methyl ethyl ketone, ethyl acetate, carbon disulfide, and toluene on the responding of mice. J Am Coll Toxicol 1987; 6:461–469.

Glowa J, DeWeese J, Natale ME, Holland JJ. Behavioral toxicology of volatile organic solvents. I. Methods: acute effects. J Am Coll Toxicol 1983; 2:175–185.

Goldberg AM, Frazier JM. Alternatives to animals in toxicity testing. Sci Amer 1989; 261:24–30.

Goldstein MK, Stein GH. Ambulatory activity in chronic disease. In: Tryon WH, ed. Behavioral Assessment in Behavioral Medicine. New York: Springer Publishing Co., 1985:160–162.

Griffin JW. Basic pathologic processes in the nervous system. Toxicologic Pathology 1990; 18:83–88.

Hammerschlag R, Brady S. Axonal transport and the neuronal cytockeleton. In: Siegal GJ, Agranoff BW, Albers RW, Molinoff PB, eds. Basic Neurochemistry. New York: Raven Press, 1989:457–478.

Hanninen H. Methods in behavioral toxicology: current test batteries and need for development. In: Russell RW, Flattau PE, Pope AM, eds. Behavioral Measures of Neurotoxicity. Washington, DC: National Academy Press, 1990.

Hanninen H, Mantere P, Hernberg S, Seppalainen AM, Kock B. Subjective symptoms in low-level exposure to lead. Neurotoxicology 1979; 1:333–347.

Hattis D, Shapiro K. Analysis of dose/time/response relationships for chronic toxic effects: the case of acrylamide. Neurotoxicology 1990; 11:219–236.

HAZDAT. ATSDR Database. Agency for Toxic Substances and Disease Registry, Atlanta, GA, 1992.

Heikkila RE, Hess A, Duvoisin RC. Dopaminergic neurotoxicity of 1-methyl-4-phenyl-1,2,5,6-tetrahydropyridine in mice. Science 1984; 224:1451–1453.

Heise GA. Behavioral methods for measuring effects of drugs on learning and memory in animals. Med Res Rev 1984; 4:535–558.

Hill RM, Tennyson LM. Maternal drug therapy: effect on fetal and neonatal growth and neurobehavior. Neurotoxicology 1986; 7:121–140.

Hooisma J, Emmen HH, Kulig BM, Muijser H, Poortvliet D, Letz R. Factor analysis of tests from the neurobehavioral evaluation system and the WHO neurobehavioral core test battery. In: Johnson B, Anger WK, Durao A, Xintaras C, eds. Advances in Neurobehavioral Toxicology: Applications in Environmental and Occupational Health. Chelsea: Lewis Publishers, 1990.

Horvath M, Frantik E. Quantitative interpretation of experimental toxicological data: the use of reference substances. In: Horvath M, ed. Adverse Effects of Environmental Chemicals and Psychotropic Drugs. Amsterdam: Elsevier, 1973:11–21.

Hruska RE, Kennedy S, Silbergeld EK. Quantitative aspects of normal locomotion in rats. Life Sci 1979; 25:171–179.

Hutchings DE, Fico TA, Dow-Edwards DL. Prenatal cocaine: maternal toxicity, fetal effects and locomotor activity of rat offspring. Neurotoxicol Teratol 1989; 11:65–69.

Iregren A, Gamberale F, Kjellberg A. A microcomputer-based behavioral testing system. In: Neurobehavioral Methods in Occupational and Environmental Health. Copenhagen: World Health Organization, 1985.

Joffe JM, Soyka LF. Effects of drug exposure on male reproductive processes and progeny. Period Biol 1981; 83:351–362.

Johnson MK. Organophosphates and delayed neuropathy—Is NTE alive and well? Toxicol Appl Pharmacol 1990; 102:385–399.

Johnson BL. Prevention of neurotoxic illness in working populations. New York: Wiley, 1987.

Johnson BL, Boyd J, Burg JR, Lee ST, Xintaras C, Albright BE. Effects on the

peripheral nervous system of workers exposed to carbon disulfide. Neurotoxicology 1983; 4:53–66.

Jones KL, Smith DW. Recognition of the fetal alcohol syndrome in early infancy. Lancet 1973; 2:999–1001.

Katzman R. Blood-brain-CSF barriers. In: Siegal GJ, ed. Basic Neurochemistry. Boston: Little, Brown and Company, 1976:414–428.

Kimmel CA. Current status of behavioral teratology: science and regulation. CRC Critical Reviews in Toxicology 1988; 19:1–10.

Kimmel CA. Quantitative approaches to human risk assessment for noncancer health effects. Neurotoxicology 1990; 11:189–198.

Kimmel CA, Gaylor DW. Issues in qualitative and quantitative risk analysis for developmental toxicology. Risk Analysis. 1988; 8:15–20.

Kimmel CA, Rees DC, Francis EZ. Qualitative and quantitative comparability of human and animal developmental neurotoxicology. Teratology 1990; 12:175–292.

Klaassen CD. Absorption, distribution, and excretion of toxicants. In: Doull J, Klaassen CD, Amdur M, eds. Toxicology: The Basic Science of Poisonings. New York: MacMillan, 1980:28–55.

Kopin IJ, Markey SP. MPTP toxicity: implications for research in Parkinson's disease. Ann Rev Neurosci 1988; 11:91–96.

Krinke GJ. Neuropathologic screening in rodent and other species. J Am Coll Toxicol 1989; 8:141–155.

Kurata H. Mycotoxins and mycotoxicoses: overview. In: Pohland AE, Dowell VR Jr, Richards JL, eds. Microbial Toxins in Foods and Feeds, Cellular and Molecular Modes of Action. New York: Plenum Press, 1990:249–259.

Langston JW, Ballard P, Tetrud JW, Irwin I. Chronic parkinsonism in humans due to a product of meperidine-analog synthesis. Science 1983; 219:979–980.

Last JM. Epidemiology and health information. In: Last JM, ed. Maxcy-Rosenau Public Health and Preventive Medicine. New York: Appleton-Century-Crofts, 1986.

Letz R. The neurobehavioral evaluation system: an international effort. In: Johnson B, Anger WK, Durao A, Xintaras C, eds. Advances in Neurobehavioral Toxicology: Applications in Environmental and Occupational Health. Chelsea: Lewis Publishers, 1990.

Levine MS, Fox NL, Thompson B, Taylor W, Darlington AC, Van Der Hoeden J, Emmett EA, Rutten W. Inhibition of esterase activity and an undercounting of circulating monocytes in a population of production workers. J Occup Med 1986; 28:207–211.

Liang Y-X, Chen Z-Q, Sun R-K, Fan Y-F, Yu J-H. Application of the WHO neurobehavioral core test battery and other neurobehavioral screening methods. In: Johnson B, Anger WK, Durao A, Xintaras C, eds. Advances in Neurobehavioral Toxicology: Applications in Environmental and Occupational Health. Chelsea: Lewis Publishers, 1990.

Lim DJ. Effects of noise and ototoxic drugs at the cellular level in the cochlea: a review. Am J Otolaryngol 1986; 7:73–99.

Little RE, Anderson KW, Ervin CH, Worthington-Roberts B, Clarren SK. Maternal alcohol use during breast-feeding and infant mental and motor development at one year. N Engl J Med 1989; 321:425–430.

Lowndes HE, Baker T. Toxic site of action in distal axonopathies. In: Spencer PS, Schaumburg HH, eds. Experimental and Clinical Neurotoxicology. Baltimore: Williams and Wilkins, 1980:193–205.

MacPhail RC. Effects of pesticides on schedule-controlled behavior. In: Seiden LS, Balster RL, eds. Behavioral Pharmacology: The Current Status. New York: Alan R. Liss, 1985:519–535.

MacPhail RC. Environmental modulation of neurotoxicity. In: Russell RW, Flattau PE, Pope AM, eds. Behavioral Measures of Neurotoxicity. Washington, DC: National Academy Press, 1990.

MacPhail RC, Crofton KM, Reiter LW. Use of environmental challenges in behavioral toxicology. Fed Proc 1983; 42:3196–3200.

MacPhail RC, Peele DB, Crofton KM. Motor activity and screening for neurotoxicity. J Am Coll Toxicol 1989; 8:117–125.

Mailman RB. Mechanisms of CNS injury in behavioral dysfunction. Neurotoxicol Teratol 1987; 9:417–426.

Matthews HB, Dixon D, Herr DW, Tilson HA. Subchronic toxicity studies indicate that tris(2-chloroethyl)phosphate administration results in lesions in the rat hippocampus. Toxicol Indust Health 1990; 6:1–15.

Mattsson JL, Albee RR. Sensory evoked potentials in neurotoxicology. Neurotoxicol Teratol 1988; 10:435–443.

Maurissen JP. Quantitative sensory assessment in toxicology and occupational medicine: applications, theory and critical appraisal. Toxicol Lett 1988; 43:321–343.

Maurissen JP, Weiss B, Davis HT. Somatosensory thresholds in monkeys exposed to acrylamide. Toxicol Appl Pharmacol 1983; 71:266–279.

Mausner JS, Kramer S. Epidemiology—An Introductory Text (2nd ed). Philadelphia: W.B. Saunders Co., 1985.

McKeown-Eyssen GE, Ruedy J, Neims A. Methylmercury exposure in northern Quebec II. Neurologic findings in children. Am J Epidemiol 1983; 118:470–479.

McMillan DE. Risk assessment for neurobehavioral toxicity. Environ Health Perspect 1987; 76:155–161.

Merigan WH. Effects of toxicants on visual systems. Neurobehav Toxicol 1979; 1 (Suppl.):15–22.

Morell P, Mailman RB. Selective and nonselective effects of organometals on brain neurochemistry. In: Tilson HA, Sparber SB, eds. Neurotoxicants and Neurobiological Function: Effects of Organoheavy Metals. New York: Wiley, 1987:201–230.

Moser VC. Screening approaches to neurotoxicity: a functional observational battery. J Am Coll Toxicol 1989; 8:85–93.

Moser VC. Approaches for assessing the validity of a functional observational battery. Neurotoxicol Teratol 1990; 12:483–488.

Moser VC, McDaniel KL, Phillips PM. Rat strain and stock comparisons using a functional observational battery: baseline values and effects of amitraz. Toxicol Appl Pharmacol 1991; 108:267–283.

National Institute for Occupational Safety and Health (NIOSH). NIOSH Recommendations for Occupational Safety and Health: Compendium of Policy Documents and Statement. DHHS Pub. No. 92–100, 1992.

National Research Council, Committee on Toxicology. Effects on behavior. In: Principles for Evaluating Chemicals in the Environment. Washington, DC: National Academy of Sciences, 1975.

National Research Council (NRC). Risk Assessment in the Federal Government. Washington, DC: National Academy Press, 1983.

National Research Council (NRC). Toxicity Testing: Strategies to Determine Needs and Priorities. Washington, DC: National Academy of Sciences, 1984.

National Research Council (NRC). Environmental Neurotoxicology. Washington, DC: National Academy Press, 1992.

Needleman HL. Introduction: biomarkers in neurodevelopmental toxicology. Environ Health Perspect 1987; 74:149–152.

Needleman HL. Lessons from the history of childhood blumbism for pediatric neurotoxicology. In: Johnson BL, Anger WK, Durano A, Xintaras C, eds. Advances in Neurobehavioral Toxicology: Application in Experimental and Occupational Health. Chelsea: Lewis Publishers, 1990:331–337.

Needleman HL, Gunnoe CE, Leviton A. Deficits in psychologic and classroom performance of children with elevated blood lead levels. N Engl J Med 1979; 300:689–695.

Nelson BK. Evidence for behavioral teratogenicity in humans. J Appl Toxicol 1991a; 11:33–37.

Nelson BK. Selecting exposure parameters in developmental neurotoxicity assessments. Neurotoxicol Teratol 1991b; 13:569–573.

Newland MC. Quantification of motor function in toxicology. Toxicol Lett 1988; 43:295–319.

O'Callaghan JP. Neurotypic and gliotypic proteins as biochemical markers of neurotoxicity. Neurotoxicol Teratol 1988; 10:445–452.

O'Donoghue JL. Screening for neurotoxicity using a neurologically based examination and neuropathology. J Am Coll Toxicol 1989; 8:97–116.

Office of Science and Technology Policy (OST). Chemical carcinogens: a review of the science and its associated principles. Federal Register 1985:1–85.

Office of Technology Assessment (OTA). Neurotoxicity: identifying and controlling poisons of the nervous system. U.S. Congress. Office of Technology Assessment (OTA–BA–436), Washington, DC: U.S. Government Printing Office, 1990.

Otto DA, Hudnell HK. Electrophysiological systems for neurotoxicity field testing: PEARL II and alternatives. In: Johnson B, Anger WK, Durao A, Xintaras C, eds. Advances in Neurobehavioral Toxicology: Applications in Environmental and Occupational Health. Chelsea: Lewis Publishers, 1990.

Otto DA, Hudnell HK. Problems in studying low level solvent mixtures. Arbete och Halsa 1991; 35:35–38.

Overstreet DH. Pharmacological approaches to habituation of the acoustic startle response in rats. Physiol Psychol 1977; 5:230–238.

Pardridge WM. Recent advances in blood-barrier transport. Ann Rev Pharmacol Toxicol 1988; 28:25–39.

Paule MG, Forrester TM, Maher MA, Cranmer JM, Allen RR. Monkey versus human performance in the NCTR operant test battery. Neurotoxicol Teratol 1990; 12:503–507.

Paule MG, McMillan DE. Incremental repeated acquisition in the rat: acute effects of drugs. Pharmacol Biochem Behav 1984; 21:431–439.

Pearson DT, Dietrich KN. The behavioral toxicology and teratology of childhood: models, methods, and implications for intervention. Neurotoxicology 1985; 6:165–182.

Peele DB, Vincent A. Strategies for assessing learning and memory, 1978–1987: a comparison of behavioral toxicology, psychopharmacology and neurobiology. Neurosci Biobehav Rev 1989; 13:33–38.

Perl TM, Bedard L, Kosatsky T, Hockin JC, Todd ECD, Remis RS. An outbreak of toxic encephalopathy caused by eating mussels contaminanted with domoic acid. N Engl J Med 1990; 322:1775–1780.

Piikivi L, Tolonen U. EEG findings in chloralkali workers subjected to low long term exposure to mercury vapor. Br J Ind Med 1989; 46:30–35.

Politis MJ, Schaumburg HH, Spencer PS. Neurotoxicity of selected chemicals. In: Spencer PS, Schaumburg HH, eds. Experimental and Clinical Neurotoxicology. Baltimore: Williams and Wilkins, 1980: 613–630.

Pryor G, Dickinson J, Howd RA, Rebert CS. Transient cognitive deficits and high-frequency hearing loss in weanling rats exposed to toluene. Neurobehav Toxicol Teratol 1983; 5:53–57.

Putz VR, Johnson BL, Setzer JV. A comparative study of the effects of carbon monoxide and methylene chloride on human performance. J Environ Path Toxicol 1979; 2:97–112.

Raine CS. Neurocellular anatomy. In: Siegal GJ, Agranoff BW, Albers RW, Molinoff PB, eds. Basic Neurochemistry. New York: Raven Press, 1989:3–34.

Rao BL, Husain A. Presence of cyclopiazonic acid in Kodo millet (Paspalum scrobiculatum) causing 'Kodua poisoning' in man and its production by associated fungi. Mycopathologia 1985; 89:177–180.

Rebert CS. Multisensory evoked potentials in experimental and applied neurotoxicology. Neurobehav Toxicol Teratol 1983; 5:659–671.

Reiter LW. Neurotoxicology in regulatory and risk assessment. Develop Pharmacol Therap 1987; 10:354–368.

Ricaurte GA, Delanney LE, Weiner SG, Irwin I, Langston JW. 5–Hydroxyindoleacetic acid in cerebrospinal fluid reflects serotonergic damage induced by 3,4-methylenedioxymethamphetamine in CNS of nonhuman primates. Brain Res 1986; 474:359–363.

Rice DC. Quantification of operant behavior. Toxicol Lett 1988; 43:361–379.

Riley AL, Tuck DL. Conditioned taste aversions: a behavioral index of toxicity. Ann NY Acad Sci 1985; 443:272–292.

Riley EP, Vorhees CV, eds. Handbook of Behavioral Teratology. New York: Plenum Press, 1986.

Rodier PM. Time of exposure and time of testing in developmental neurotoxicology. Neurotoxicology 1986; 7:69–76.

Rodier P. Developmental neurotoxicology. Toxicologic Pathol 1990; 18:89–95.

Russell RW. Essential roles for animal models in understanding human toxicities. Neurosci Biobehav Rev 1991; 15:7–11.

Ryan CM, Morrow LA, Bromet EJ, Parkinson DK. Assessment of neuropsychological dysfunction in the workplace: normative data from the Pittsburgh Occupational Exposures Test Battery. J Clin Exp Neuropsychol 1987; 9:665–679.

Salzman C. Antianxiety agents. In: Crook T, Cohen G, eds. Physicians' Handbook on Psychotherapeutic Drug Use in the Aged. New Canaan, NY: Mark Powley Associates, 1981.

Schrot J, Thomas JR, Robertson RF. Temporal changes in repeated acquisition behavior after carbon monoxide exposure. Neurobehav Toxicol Teratol 1984; 6:23–28.

Schwartz J, Landrigan PF, Feldman RG, Silbergeld EK, Baker EL, Von Lindern IH. Threshold effect in lead-induced peripheral neuropathy. J Pediatr 1988; 11:212–217.

Seppalainen AM, Haltia M. Carbon disulfide. In: Spencer PS, Schaumburg HH, eds. Experimental and Clinical Neurotoxicology. Baltimore: Williams and Wilkins, 1980:356–373.

Seppalainen AM, Harkonen H. Neurophysiological findings among workers occupationally exposed to styrene. Scand J Work Environ Health 1976; 2:140.

Sette WF, MacPhail RC. Qualitative and quantitative issues in assessment of neurotoxic effects. In: Tilson H, Mitchell C, eds. Neurotoxicology. New York: Raven Press, 1992:345–361.

Sheehan DM, Young JF, Slikker W Jr, Gaylor DW, Mattison DR. Workshop on risk assessment in reproductive and developmental toxicology: addressing the assumptions and identifying the research needs. Regulat Toxicol Pharmacol 1989; 10:110–122.

Silbergeld EK. Maternally mediated exposure of the fetus: in utero exposure to lead and other toxins. Neurotoxicology 1986; 7:557–568.

Silbergeld EK. Developing formal risk assessment methods for neurotoxicants: an evaluation of the state of the art. In: Johnson BL, Anger WK, Durao A, Xintaras C, eds. Advances in Neurobehavioral Toxicology: Applications in Environmental and Occupational Health. Chelsea: Lewis, 1990:133–148.

Sjogren B, Gustavsson P, Hogstedt C. Neuropsychiatric symptoms among welders exposed to neurotoxic metals. Brit J Indust Med 1990; 47:704–707.

Slikker W Jr. Biomarkers of neurotoxicity: an overview. Recent advances on biomarker research. Biomed Environ Sci 1991; 4:192–196.

Slikker W Jr, Gaylor DW. Biologically based dose-response model for neurotoxicity risk assessment. Korean J Toxicol 1990; 6:204–213.

Slikker W Jr, Holson RR, Ali SF, Kolta MG, Paule MG, Scallet AC, McMillan DE, Bailey JR, Hong JS, Scalzo FM. Behavioral and neurochemical effects of orally administered MDMA in the rodent and nonhuman primate. Neurotoxicology 1989; 10:529–542.

Smith MA, Grant LD, Sors AI, eds. Lead Exposure and Child Development: An International Assessment. Dordrecht, Netherlands: Kluwer Academic Publishers, 1989.

Solomon PR, Pendlebury WW. A model systems approach to age-related memory disorders. Neurotoxicology 1988; 9:443–462.

Spencer PS, Schaumburg HH, eds. Experimental and Clinical Neurotoxicology. Baltimore: Williams and Wilkins Co, 1980.

Spencer PS, Nunn PB, Hugon J, Ludolph AC, Ross SM, Roy DN, Robertson RC. Guam amyotrophic lateral sclerosis-Parkinsonism-dementia linked to a plant excitant neurotoxin. Science 1987; 237:517–522.

Stanton ME, Spear LP. Comparability of endpoints across species in developmental neurotoxicity. Neurotoxicol Teratol 1990; 12:261–268.

Stebbins WC, Coombs C. Behavioral assessment of ototoxicity in nonhuman primates. In: Weiss B, Laties VG, eds. Behavioral Toxicology. New York: Plenum Press, 1975.

Sterman AB, Schaumburg HH. Neurotoxicity of selected drugs. In: Spencer PS, Schaumburg HH, eds. Experimental and Clinical Neurotoxicology. Baltimore: Williams and Wilkins, 1980:593–612.

Stewart RD, Fisher TN, Hosko R. Experimental human exposure to methylene chloride. Arch Environ Health 1972; 25:342–348.

Strong MJ, Garruto RM. Potentiation in the neurotoxic induction of experimental chronic neurodegenerative disorders: n-butyl benzenesulfonamide and aluminum chloride. Neurotoxicology 1991; 12:415–426.

Suzuki K. Special vulnerabilities of the developing nervous system to toxic substances. In: Spencer PS, Schaumburg HH, eds. Experimental and Clinical Neurotoxicology. Baltimore: Williams and Wilkins, 1980:48–61.

Terrace HS. Errorless discrimination learning in the pigeon: Effects of chlorpromazine and imipramine. Science 1963; 140:318–319.

Thompson FN Jr, Porter JK. Tall fescue toxicosis in cattle: could there be a public health problem. Vet Human Toxicol 1990; 32:51–57.

Tilson HA, Cabe PA. Strategy for the assessment of neurobehavioral consequences of environmental factors. Environ Health Perspect 1978; 26:287–299.

Tilson HA. Practical considerations in establishing valid and sensitive neurobehavioral tests methods. Zbl Bakt Hyg B 1987; 185:10–15.

Tilson HA. Screening for neurotoxicity: principles and practices. J Am Coll Toxicol 1989; 8:13–17.

Tilson HA. Behavioral indices of neurotoxicity. Toxicologic Pathology 1990a; 18:96–104.

Tilson HA. Neurotoxicology in the 1990s. Neurotoxicol Teratol 1990b; 12:293–300.

Tilson HA, Mitchell CL. Neurotoxicants and adaptive responses of the nervous system. Fed Proc 1983; 42:3189–3190.

Tilson HA, Mitchell CL. Neurobehavioral techniques to assess the effects of chemicals on the nervous system. Ann Rev Pharmacol Toxicol 1984; 24:25–50.

Tilson HA, Moser VC. Comparison of screening approaches. Neurotoxicology 1992; 13:1–14.

United States Environmental Protection Agency (U.S. EPA). Neurotoxicity Testing Guidelines. Springfield, VA: National Technical Information Service, 1991.

Valciukas JA. Foundations of Environmental and Occupational Neurotoxicology. New York: Van Nostrand Reinhold, 1991.

Veronesi B. The use of cell culture for evaluating neurotoxicity. In: Tilson HA, Mitchell CL, eds. New York: Raven Press, 1991:21–50.

Veronesi B, Jones K, Pope C. The neurotoxicity of subchronic acetylcholinesterase (AChE) inhibition in rat hippocampus. Toxicol Appl Pharmacol 1990; 104:440–456.

Verity MA, Sarafian TS, Guerra W, Ettinger A, Sharp J. Ionic modulation of triethyllead neurotoxicity in cerebellar granule cell culture. Neurotoxicology 1990; 11:415–426.

Vorhees CV. Reliability, sensitivity and validity of indices of neurotoxicity. Neurotoxicol Teratol 1987; 9:445–464.

Walker CH, Faustman WO, Fowler SC, Kazar DB. A multivariate analysis of some operant variables used in behavioral pharmacology. Psychopharmacology 1981; 74:182–186.

Weiss B. Risk assessment: The insidious nature of neurotoxicity and the aging basis. Neurotoxicology 1990; 11:305–313.

Williamson AM. The influence of subject characteristics on the identification of acute effects of solvent exposure. Arbete och Halsa 1991; 35:14–18.

Willis WD Jr, Grossman RG. Neurotransmission. In: Medical Neurobiology. St. Louis: C.V. Mosby, 1973:457.

World Health Organization (WHO). Principles and Methods for the Assessment of Neurotoxicity Associated with Exposure to Chemicals. Environmental Health Criteria Document 60. Geneva: World Health Organization, 1986.

Wyllie TD, Morehouse LC. Mycotoxic Fungi, Mycotoxins, Mycotoxicoses, An Encyclopedic Handbook. New York: Marcel Dekker, Inc., 1978, Vols. 1–3.

Wyzga R. Towards quantitative risk assessment for neurotoxicity. Neurotoxicology 1990; 11:199–208.

Yokel RA. Repeated systemic aluminum exposure effects on classical conditioning of the rabbit. Neurobehav Toxicol Teratol 1983; 5:41–46.

Yokel RA, Provan SD, Meyer JJ, Campbell SR. Aluminum intoxication and the victim of Alzheimer's disease: similarities and differences. Neurotoxicology 1988; 9:429–442.

Zenick H. Use of pharmacological challenge to disclose neurobehavioral deficits. Fed Proc 1983; 42:3191–3195.

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Part III

Department of Transportation

Coast Guard

33 CFR Parts 175 and 181
46 CFR Part 160
Recreational Boating Safety Equipment; Rule

DEPARTMENT OF TRANSPORTATION

Coast Guard

33 CFR Parts 175 and 181

46 CFR Part 160

[CGD 92-045]

RIN 2115-AE26

Recreational Boating Safety Equipment Requirements

AGENCY: Coast Guard, DOT.

ACTION: Final rule.

SUMMARY: The Coast Guard is changing a number of Federal requirements and exemptions for carriage of personal flotation devices (PFDs) on recreational vessels. The designs and uses of recreational vessels and safety equipment have changed since the rules were first issued or last revised, and some of the requirements and exemptions are no longer appropriate. This rule provides the recreational boating public with clearer and more appropriate requirements for carrying personal flotation devices and promotes a safer recreational boating environment. This rule also provides for necessary temporary exemptions from certain PFD carriage, labeling and information pamphlet requirements affected by this rulemaking.

EFFECTIVE DATE: This rule is effective on September 3, 1993, except for § 175.15(a) which will be effective on May 1, 1995.

ADDRESSES: Unless otherwise indicated, documents referenced in this preamble are available for inspection or copying at the office of the Executive Secretary, Marine Safety Council (G-LRA/3406), U.S. Coast Guard Headquarters, 2100 Second Street SW., Washington, DC 20593-0001 between 8 a.m. and 3 p.m., Monday through Friday, except Federal holidays. The telephone number is (202) 267-1477.

FOR FURTHER INFORMATION CONTACT: Mr. Carlton Perry, Auxiliary, Boating, and Consumer Affairs Division, (202) 267-0979. A copy of this final rule may be obtained by calling the Coast Guard's toll-free Boating Safety Hotline, 1-800-368-5647. In Washington, DC, call 267-0780.

SUPPLEMENTARY INFORMATION:

Drafting Information

The principal persons involved in drafting this document are Mr. Carlton Perry, Project Manager, and LT Ralph Hetzel, Project Counsel, Office of Chief Counsel.

Regulatory History

On November 9, 1992, the Coast Guard published a notice of proposed rulemaking entitled "Recreational Boating Safety Equipment Requirements" in the Federal Register (57 FR 53410). The 60-day comment period ended on January 8, 1993. By that time, the Coast Guard received 400 individual letters commenting on the proposal and an additional two petition-type letters bearing 110 signatures. Another 85 individual letters were received after the close of the comment period. The individual comments received by the close of the comment period came from the following categories in the numbers noted.

260	Recreational boating interests or owners.
93	Recreational boat outfitters, liveries, or guides.
15	Recreational boat/equipment manufacturers/dealers.
3	Commercial boating interests.
8	National recreational boating interests.
3	Federal government agencies.
18	State or local government agencies.
400	

Eight comments requested that a public hearing be held to better inform the affected public, especially concerning impact on canoes, kayaks and boats under 16 feet in length. Two additional comments requested hearings be held for all boaters, particularly for rowers and paddlers, at ten cities around the country. Two other comments requested the comment period be extended to make the proposal more available to the boating public, to allow obtaining additional statistical information from the Coast Guard, and to have more time to comment. Another comment suggested postponing the rulemaking project until further study could be conducted. Most of the written comments received came from the affected public, especially canoe and kayak enthusiasts, and the rowing/paddling racing vessel community. The Coast Guard considered the requests for public hearings but determined that, although receiving oral presentations at public hearings would increase the number of comments, it would probably not raise new issues or otherwise materially assist in drafting the final rule. For the same reasons, the Coast Guard decided that additional time for comment on its proposal would not aid the rulemaking process.

Background and Purpose

The designs and uses of vessels and safety equipment have changed since the Federal regulations for carriage of personal flotation devices (PFDs) on recreational vessels were first issued or last revised. Some of the requirements and exemptions are no longer appropriate. After a comprehensive review of recreational boating safety regulations conducted at its May 1992 meeting, the National Boating Safety Advisory Council (NBSAC) recommended a number of changes to the safety equipment carriage requirements for recreational vessels (33 CFR part 175). Prior to that meeting, the Coast Guard received additional related suggestions from the National Association of State Boating Law Administrators (NASBLA) and from the general public.

This rulemaking changes the existing regulations on PFD carriage requirements. These changes will provide the boating public with clearer and more appropriate requirements for carrying personal flotation devices, and will promote a safer recreational boating environment.

Discussion of Comments and Changes

Four comments opposed any requirement to carry extra Type IV PFDs (cusions or throwables) on commercial white water rafts. Another comment suggested requiring the same PFDs on recreational vessels, uninspected passenger vessels, and small passenger vessels.

PFD carriage requirements for commercial uninspected passenger vessels and small passenger vessels are contained in 46 CFR subchapter C, and are not the subject of this rulemaking project.

A number of comments recommended increased Coast Guard efforts in the areas of boater education and enforcement of regulations related to operation of a vessel while intoxicated.

The Coast Guard agrees and will continue to emphasize the benefits of boating safety education and enforcement of U.S. laws and regulations, including those related to operating a vessel while intoxicated.

A number of comments suggested various requiremgnts or exemptions related to USCG approval or design restrictions of PFDs for carriage or wearing requirements.

The procedures and requirements for USCG approval of PFDs are contained in 46 CFR part 160, and are not the subject of this rulemaking. A copy of these comments has been submitted to the Coast Guard's Survival Systems Branch, which is responsible for those requirements, for consideration as a potential regulatory project.

A number of comments questioned the statistics used to support the proposed rulemaking generally, or a specific provision of the rulemaking that affected a particular boating segment, such as racing shells, whitewater canoes, or sailboards. Some comments supported the statistics used along with additional statistics, or confirmed the statistics by providing information, such as U.S. Army Corps of Engineers (COE) statistics on boating fatalities at COE projects during 1986–1990. Others requested additional statistics related to recent research to substantiate the need for a requirement to wear PFDs. Still others were interested in statistics regarding powered vs. nonpowered vessel fatalities or fatalities for boaters who had been consuming alcohol. Additional information was requested on the 19 States requiring children to wear PFDs on boats.

The Coast Guard has reviewed its recreational boating statistical data on fatalities for the years 1988 through 1991 in view of the above concerns. There were 3,631 fatalities during that 4-year time period for all recreational boat types. Almost 23% (830) of the 4-year total number of reported fatalities involved canoes, kayaks, rowboats, inflatables, and other manually-propelled boats. The statistics indicate that about 70% (585) of the 4-year total (830) reported fatality victims on manually-propelled boats were not using a PFD, compared to about 59% for the total (3,631) for all recreational boat fatalities reported over the same 4-year time period. The statistics also indicate that of the 4-year total reported fatalities (830) involving manually-propelled boats, only 9% (78) occurred on boats known to be rented. In addition, the statistics indicate that of the 4-year total (830) reported fatalities involving manually-propelled boats, about 62% (512) of the boats known to be rented were under 16 feet in length.

Regarding alcohol involvement in boating accidents, the statistics indicate that less than 17% (603) of the total fatalities reported during the 4-year period 1988 through 1991 involved use of alcohol.

Additional information on the 19 States referred to in the NPRM regarding requirements for children under a specified age to wear PFDs may be obtained from Balistreria Consulting, Inc., 5713 Twenty-Third Street, Zephyrhills, FL 33540–4726; the telephone number is (813) 783–3996.

Specific Comments on Changes Proposed in the NPRM

Subpart A—General

Section 175.1 Applicability

Nine comments supported excepting seaplanes from applicability of Coast Guard PFD carriage requirements. No comments opposed the proposal and the Coast Guard has adopted the exception as proposed.

Section 175.3 Definitions

The Coast Guard does not consider surfboards, swim boards or "boogie" boards to be vessels and has not adopted suggestions to include them in this rulemaking. The Coast Guard agrees with the suggestion to add a definition of the term "recreational submersible", but intends to publish it in a future rulemaking project to allow time to develop a suitable definition.

Boat. No comments objected to this term and the Coast Guard has adopted the definition as proposed.

Passenger. One comment suggested redefining the term "passenger" to agree with a proposed Congressional resolution. The Coast Guard is aware of this pending legislation to change the statutory definition of the term "passenger" and has decided to delay any revision of the current published definition until such legislation is enacted.

Personal watercraft. One comment suggested revising the definition length, limiting the number of persons on board, limiting the definition to vessels "propelled by jet pump", and separating non-jet pump propelled craft. Another comment suggested deferring the final definition until after a Coast Guard sponsored NBSAC Subcommittee on Personal Watercraft Definition and Requirements formally submits its findings to the Coast Guard through the full Council.

The Coast Guard will delay making a decision on this definition until after considering the NBSAC Subcommittee on Personal Watercraft Definition and Requirements Report. The Coast Guard intends to publish this definition in a future rulemaking project.

Racing shell, rowing scull, and racing kayak. There was a suggestion to revise the definition to be more specific about racing kayaks, to include racing canoes, and to include poles as a means of propulsion. Also, carefully defining racing canoes and racing kayaks and developing a method of clearly marking racing craft was recommended.

The Coast Guard agrees that this definition should include racing canoes recognized by national or international racing associations and should include poles as a means of propulsion, and has revised the definition accordingly. The Coast Guard has decided not to redefine the term "racing kayaks" to be more specific.

Recreational vessel. One comment requested clarification of what the phrase "six or fewer passengers" means, while another suggested removing the phrase from the definition.

The key to the meaning of this phrase is in the definition of the term "passenger" which the Coast Guard uses to separate recreational from commercial operation and to determine application of operator licensing and PFD carriage requirements. Commercial PFD requirements are contained in 46 CFR 25.25. They specifically exempt vessels used or leased, rented or chartered to another for the latter's noncommercial use. Thus, the sentence, "It does not include a vessel engaged in the carrying of six or fewer passengers." clarifies the applicability of commercial or recreational PFD carriage requirements and has been retained.

Sailboard. Ten comments supported the proposed definition of a sailboard as a vessel. No comments objected to the proposed definition of sailboard as a vessel. The Coast Guard has decided to adopt this definition as proposed.

Use. No comments objected to this definition and the Coast Guard has adopted it as proposed.

Vessel. No comments objected to this definition and the Coast Guard has decided to adopt the definition of the term "vessel" as proposed.

Section 175.5 Exemption From Preemption

Exemption from preemption. Over 36 comments supported the proposed exemption to allow States discretion to set PFD requirements on specified types of boats based on local conditions. Another comment suggested expanding the proposed preemption exemption to allow States to set PFD requirements for additional types of boats on designated whitewater streams or other waterways that a State finds to be inherently dangerous. An additional 3 comments supported the proposal, if States were only allowed to set stricter requirements than Federal requirements. Another comment supported the proposal, if States adopted uniform State requirements. Yet another comment suggested that States separate canoes and kayaks from boats with mechanical propulsion when setting local PFD requirements. Over 14 comments opposed the proposal, emphasizing that only the Federal Government or Coast Guard should set these requirements

because the States are too diverse. Another 4 comments opposed any changes. Over 175 comments opposed any requirement to wear PFDs on canoes and kayaks or on racing canoes, racing and rowing sculls for recreational use or competition practice.

The Coast Guard did not propose Federal requirements to wear PFDs at all times on recreational vessels. Although the exemption from preemption for States would allow a State to determine whether certain persons on certain vessels should wear PFDs under certain circumstances, including carriage requirements in the absence of a Federal requirement to carry a wearable PFD, it was not intended to encourage States to establish across-the-board wearing requirements on all watercraft at all times. The Coast Guard believes that most objections to PFD wearing requirements were based on this misunderstanding of the proposal. At the same time, the Coast Guard may reconsider the exemption from preemption provisions in the future in response to substantiated complaints of unnecessarily burdensome State PFD wearing requirements.

The Coast Guard has decided that a reasonable balance should be struck between uniform national PFD carriage requirements and State discretion to set local PFD requirements different from the national requirements. Consideration should be given to the difference in each State's (1) difficulty of navigation on its boating waterways; (2) severity of its climate and weather conditions during its boating season; and (3) public support within a State for an increased level of safety for its boating public, including children. In setting local PFD requirements, States likely will base such requirements on perceived need, obtain public comment, allow an appropriate level of reciprocity to out-of-State transient vessels, and not attempt to reduce the applicability of Federal PFD carriage requirements.

Children. Many comments supported allowing States to set PFD wearing requirements for children as was proposed in the NPRM. Additional comments supported the proposal only for children under 6 years old. Some comments opposed allowing States to set PFD wearing requirements for children, while others suggested setting a national requirement to wear a PFD for all children, or for a specific age group.

The Coast Guard agrees that a State should be able to set PFD wearing requirements and to determine the age of applicability for children on vessels within its boundaries. It is the Coast Guard's position that it is appropriate to establish national requirements to carry PFDs on certain recreational vessels, without imposing an additional Federal requirement to wear them on those vessels. It is appropriate for an individual State to establish PFD wearing requirements, and associated carriage requirements in the absence of Federal carriage requirements, for its boaters because of the previously mentioned factors applicable to each State. However, each State is encouraged to provide appropriate reciprocity for children on out-of-State transient vessels that are in compliance with the PFD requirements of the State which issued their vessel number.

Racing shells, rowing sculls, and racing kayaks. The comments were about evenly split between support of and opposition to the proposal allowing States to set PFD wearing requirements for recreational operation of racing vessels. Some objections emphasized the difficulty that law enforcement officers would have in discerning any difference between recreational use and competition practice. Another emphasized the need for a single national requirement instead of the potential for 50 State interpretations. One additional comment suggested using a better definition of "competitive racing" and "competition practice" in the rule.

Also suggested was deferring the proposed exemption from preemption until a more complete, universal and broadly acceptable definition for these craft is developed.

The Coast Guard agrees with the comments pointing out the difficulty in discerning recreational from competition practice and the lack of a Coast Guard approved PFD suitable for wearing on this class of racing vessels without risk of overheating and chafing. Further, the Coast Guard cannot confirm recreational fatalities for this class of vessel beyond a single rowing scull fatality that occurred in Pennsylvania. There is no indication of a need for the individual States to regulate these vessels. Therefore, the Coast Guard has removed the exemption from preemption for the States to regulate this racing class of recreational vessels.

Canoes and kayaks. A number of comments supported allowing States to set PFD wearing requirements for operation of canoes and kayaks as proposed. Additional comments supported the proposed exemption if State requirements were made on an area-wide basis, while another suggested that requiring whitewater kayakers to wear a PFD while descending rivers and requiring open water kayakers to wear PFDs under Small Craft Advisory conditions would achieve the desired increased safety. A similar number of comments opposed the proposed exemption, with one specifically opposing States setting blanket PFD wearing requirements. Several objected to either Federal or State wearing requirements for currently available PFDs on canoes or kayaks under strenuous paddling, marathon voyage or racing conditions in warm weather due to likely overheating. One comment suggested deferring the proposed exemption from preemption until a more complete, universal and broadly acceptable definition for these craft is developed.

The Coast Guard has adopted this exemption as proposed. The Coast Guard is allowing each State to set PFD wearing requirements on canoes and kayaks as it deems appropriate due to climate or weather conditions within its boundaries, specific waterway characteristics or difficulty of navigation, and other conditions, which may be specific to each State's waterways. This rule does not impose any Federal requirement on the States to establish PFD wearing requirements. At the same time, the Coast Guard may reconsider the exemption from preemption provisions in the future in response to substantiated complaints of unnecessarily burdensome State PFD wearing requirements.

Sailboards. Two comments opposed exempting sailboards from Federal PFD carriage requirements. Two other comments addressed a requirement to wear a PFD while operating a sailboard, one in favor and one opposed.

The Coast Guard has adopted this exemption as proposed. Although the Coast Guard is not setting a Federal requirement that a PFD be carried or worn while operating a sailboard, a State should be allowed to do so in consideration of climate and waterway navigation conditions within its boundaries. This rule does not impose any Federal requirements on the States to establish PFD wearing requirements. Operators of sailboards continue to be subject to Federal and State regulations regarding vessel navigation and intoxicated operation of a vessel.

Personal watercraft. Eight comments supported allowing States to set PFD wearing requirements for operation of personal watercraft as proposed, with one comment supporting Federal, State or local requirements. One comment opposed any exemption to PFD carriage requirements for personal watercraft. Another comment suggested deferring the proposed exemption from preemption until a more complete, universal and broadly acceptable definition for these craft is developed.

The Coast Guard has adopted this exemption as proposed. Personal watercraft are still subject to requirements applicable to "recreational vessels" and a State will be allowed to establish PFD wearing requirements for personal watercraft in consideration of climate and waterway navigation conditions within its boundaries. This rule does not impose any Federal requirement on the States to establish PFD wearing requirements. Although the Coast Guard is delaying selection of a national definition of "personal watercraft", a State establishing requirements for personal watercraft likely will sufficiently describe the watercraft subject to any such requirements.

Subpart B—Personal Flotation Devices

Section 175.11 Applicability

No comments opposed this section and the Coast Guard has adopted it as proposed.

Section 175.15 Personal Flotation Devices Required

Elimination of Type IV PFD as a primary device on vessels under 16'. Over 100 comments supported the proposed requirement to carry a wearable PFD for each person on board a recreational vessel under 16 feet in length. Another 70 comments opposed the proposal, with three of the comments emphasizing that a Type IV PFD (cushion) is better than a wearable PFD if the wearable PFD is not worn. Eighteen of the comments requested that canoe or kayak livery and rental businesses be allowed to continue using the Type IV as a primary personal flotation device on their vessels. One of the comments also recommended granting a special exemption to allow livery and rental businesses one or two seasons to phase-in compliance. Several of the comments indicated that replacing hundreds of PFDs costing $15–$60 would create a financial burden of $1,000–$10,000 for livery or rental businesses. Several additional comments suggested exempting various types and sizes of vessels from carrying wearable PFDs, including: Inflatables, canoes and kayaks, sailboats, vessels 10 feet in length and under, and hand-powered vessel tenders or boats used within designated harbors or anchorages. Several comments suggested a requirement to wear PFDs on boats under 16 feet in length. A number of comments suggested applying the PFD wearing requirements to boats 18 feet (vs. 16 feet) and over; treating boats over and under 16 feet the same; or opposed setting Federal requirements to use PFDs based on vessel length at all.

Other comments suggested using vessel waterline width instead of vessel length to apply the rules, or status as rented recreational vessels. Other comments opposed any national requirement to wear PFDs on recreational boats under 16 feet in length.

The Coast Guard has adopted the new PFD carriage requirement as proposed. The effective date of § 175.15(a) is May 1, 1995, in order to provide the boating public sufficient notice of the new wearable PFD requirement, allow PFD manufacturers to produce a sufficient quantity of wearable PFDs available for sale, and provide adequate opportunity for the boating public to comply. However, in consideration of the larger numbers of vessels and associated PFDs maintained by livery and rental businesses, some of which may be considered small entities, a special temporary exemption has been added to § 175.17. This will allow these businesses an additional boating season, until May 1, 1996, to phase-in compliance and reduce the annual economic impact of the new requirement on them. While it is allowing extra time for these businesses to obtain needed wearable PFDs for their vessels, the Coast Guard urges them to comply as soon as is practicable.

The separation of safety equipment carriage requirements for vessels under 16 feet in length, and vessels 16 feet in length and over has been in effect since 1973. Safety would not likely be improved by changing the separation reference point in this rulemaking. The Coast Guard also emphasizes that the new requirement to carry wearable PFDs on boats 16 feet in length and under does not prohibit boaters from also carrying Type IV PFDs voluntarily.

The Coast Guard is also mindful that current USCG approved PFD labels and PFD information pamphlets indicate that Type IV PFDs are approved for use as primary devices on recreational vessels under 16 feet in length. The Coast Guard intends to work with Underwriters Laboratories, Inc., to revise the current UL standard 1123 to reflect these changes and to initiate a regulatory project to incorporate the revised UL standard 1123 by reference for PFD information pamphlet requirements in 33 CFR 181.703 and revise the USCG approved Type IV PFD labelling requirements in 46 CFR subpart 160. In the interim, PFD manufacturers are encouraged to provide alternate PFD information pamphlets and text on Type IV PFD labels that reflect the current revised PFD carriage requirements in 33 CFR 175.15 for recreational vessels under 16 feet in length. To facilitate the efforts of cooperating PFD manufacturers in providing accurate information on PFD requirements on recreational vessels, the Coast Guard has included exemptions from 33 CFR 181.703 and 46 CFR 160.048–6, 160.049–6, 160.050–6, and 160.064–4 for PFD manufactuerers. This will give them time to revise their information pamphlets and PFD labels to reflect this change in PFD carriage requirements for recreational vessels under 16 feet in length.

Vessels 16 feet in length and over. Two comments supported the proposed removal of the existing exemption for canoes and kayaks 16 feet in length and over from the requirement to carry a Type IV PFD in addition to the wearable PFDs for persons on board. Over 261 comments opposed the proposal. Many of the objections described the lack of stowage area on kayaks and the instability of a canoe as a platform for throwing a Type IV PFD to a person in the water. Many comments expressed concern over the added cost impact of hundreds to thousands of dollars that the proposed requirements could have on over 3,000 liveries, canoe rentals and outfitters to purchase enough new PFDs to equip their rental vessels. A few of the comments incorrectly believed they must provide an additional Type IV PFD for each person in a canoe or kayak 16 feet in length and over, or that only a Type V PFD or only a Type III PFD would be allowed to meet USCG PFD carriage requirements.

The Coast Guard agrees with the comments regarding canoes and kayaks in support of retaining the existing exemption for canoes and kayaks 16 feet in length and over (currently in § 175.15(b)) as one of several exemption provisions listed in § 175.17. Further, by continuing the exemption for canoes and kayaks from the additional PFD carriage requirements for vessels 16 feet in length and over and by allowing the additional boating season for liveries and canoe rental businesses to phase-in compliance, the financial impact on these small businesses will be reduced by apportioning the costs over almost three years. Section 175.17 Exemptions (Formerly Exceptions)

The heading of this section has been revised from the term "Exceptions" to the term "Exemptions" for clarity and consistent use in this part.

Four comments supported all the proposed exemptions. One comment suggested adding additional specific exemptions from carrying wearable PFDs for surfboards, windsailers, inner

tubes, lounge rafts, etc. Two comments opposed making any of the proposed changes. Two other comments suggested setting a national PFD wearing requirement for operators of personal watercraft. Other comments suggested various exemptions, such as exempting small sailing craft (sea kayaks) from carrying an extra Type IV PFD if a Type III or V PFD is being worn; exempting kayaks, catamarans and racing sailboats from carrying an extra Type IV PFD if a Type III PFD is being worn; and exempting marathon racing canoes, kayaks, and Oriental Long Boats exceeding 45 feet in length during training sessions and during competition from wearing lifejackets if the craft is carrying a readily available, throwable Type IV PFD or a Type II PFD for each occupant. Several comments suggested requiring carriage of a Type IV PFD in addition to the wearable PFDs for each person; that any Federal or State PFD wearing requirements adopt the phrase, "Unapproved devices, including inflatables, may be used."; clarifying whether the exemption also applies to shore boats and dinghies used to transport boaters to and from shore and their boats (vessel tenders); and that more effective enforcement of existing requirements to carry Type I, II, III, or IV PFDs on all boats under 16 feet in length would achieve better results.

Regarding additional specific exemptions for surfboards, inner tubes, lounge rafts, etc., the Coast Guard does not issue exemptions for watercraft that it does not consider to be vessels. Windsailers are included in the exemption for sailboards. Further, unless subject to a specific State requirement a personal watercraft is subject to the same Federal requirements as other recreational vessels of the same size.

Racing, shells, rowing, sculls, and racing kayaks. Some comments supported the exemption as proposed. Additional comments supported the proposed exemption if it only applied during competition or if it imposed a requirement to carry PFDs on racing shells. More comments suggested adding racing canoes to the exemption for racing class vessels or basing the exemption on the competitor status of the operator instead of the vessel class. A similar number of comments opposed a requirement to carry PFDs on racing shells, racing canoes, racing kayaks or rowing sculls or on a tender during competition practice. Another comment opposed limiting the exemption to only when the tender vessel is close enough to assist if needed. Many of the objecting comments discussed the lack of a safe and accessible place on these racing craft to carry a PFD or the impracticality of having a tender carrying PFDs accompany these racing craft during competition practice. They also pointed out the lack of a suitable design of wearable USCG approved PFD that would not increase the likelihood of overheating on warm days, or that would not interfere with rowing or paddling motions, or that would otherwise increase the safety of operators of these racing craft.

The Coast Guard agrees with the suggestion to include racing canoes in this exemption, along with racing kayaks and has revised the exemption, in § 175.17 and the definition in § 175.3 to reflect this. The Coast Guard also agrees with the comments opposing the proposal because of difficulties in operating these racing craft while wearing or carrying USCG approved PFDs and for having tenders carry USCG approved PFDs for all racing craft and their occupants. Further, the Coast Guard agrees with the comments regarding difficulty discerning recreational rowing from competition practice rowing. For these reasons, the Coast Guard has retained the existing exemption for racing shells, rowing sculls, and racing kayaks, and added racing canoes, in § 175.17.

Recreational submersibles. Nine comments supported the exemption as proposed. One comment opposed exempting submersibles from surface vessel PFD carriage requirements. Another suggested requiring that PFDs be worn on submersibles. One comment dealt with adding a definition of "recreational submersible."

The Coast Guard has adopted a revised exemption and intends to develop a definition for the term "recreational submersible" in a future rulemaking project to describe these vessels that are designed to operate on the surface or submerged. The revision will not exempt recreational submersibles from all PFD carriage requirements, but will allow use of USCG approved inflatable PFDs for commercial submersibles to meet the requirements. Recreational submersibles may alternatively carry a PFD that provides a minimum of 22 pounds of buoyancy inflated, has a means of manual inflation that can be activated with one quick and positive motion, and has an inflation chamber that is free from any leaks that can be visually detected by holding the device under water. This exemption will terminate on April 30, 1995, unless sooner superseded, rescinded or otherwise terminated.

Sailboards. Eight comments supported the exemption as proposed. One additional comment stated that a sailboard is "a pretty good flotation device" in itself. Another suggested requiring that PFDs be worn on sailboards. Three opposed exempting sailboards from carrying PFDs.

The Coast Guard acknowledges that sailboards float, just as do surfboards, inner tubes, and motorboats meeting the level flotation requirements. However, none of these items are U.S. Coast Guard approved PFDs and, despite level flotation, such motorboats are not exempt from PFD carriage requirements. The Coast Guard has decided to formally exempt sailboards from Federal PFD carriage requirements, thus allowing each State to decide whether or not PFDs should be worn and/or carried on sailboards based on climate and navigation conditions within its boundaries.

Foreign competitors. Ten comments supported the exemption as proposed. One additional comment suggested requiring use of the foreign country's approved PFD instead of a blanket exemption from Coast Guard requirements. Two comments opposed exempting foreign competitors due to the unfair advantage they would have over U.S. competitors wearing PFDs.

The Coast Guard agrees with the concerns expressed and has revised the exemption to include the competitor's use of the sponsoring foreign country's accepted flotation devices.

Regulatory Evaluation

This rule is not major under Executive Order 12291 and not significant under the "Department of Transportation Regulatory Policies and Procedures" (44 FR 11040; February 26, 1979). The total effect of this rule on the economy will not result in annual costs of $100 million or more, therefore, a full Regulatory Impact Analysis is not required. A Regulatory Evaluation has been prepared and is available in the docket for inspection or copying where indicated under **ADDRESSES.**

The Coast Guard has not compiled its own statistics on the number of vessels carrying only Type IV PFDs to meet the Federal PFD carriage requirements. However, based on the results of a national boating survey conducted by the American Red Cross under a Coast Guard grant and published in 1991, at least 60 percent of the individuals operating vessels under 16 feet in length reported wearing a PFD all or some of the time. This indicates that perhaps 40 percent of those surveyed carry either a Type IV PFD or no PFD at all, or carry but choose not to wear a Type I, II, or III PFD.

Type IV PFDs (cushions) and Type II PFDs are available at many boating supply stores at a cost of about $8.00 and $6.00, respectively. A few comments emphasized that the true costs of purchasing "more comfortable to wear" Type III PFDs ranged from $35 to $120 at many boating supply stores. If 40 percent of the owners of the estimated 10 million vessels under 16 feet in length (51% of the estimated 19.5 million total number of recreational vessels) were each required to purchase 3 wearable Type II PFDs as a result of this rulemaking, the one-time cumulative cost to the public may be as high as $72 million. Voluntary purchases of the more expensive types of PFDs would increase the total cost. The actual cost may be less. It may be that many owners will only need to purchase 1 or 2 PFDs, or that the Type II PFDs purchased will be less expensive than the Type IV PFDs and other wearable type PFDs currently allowed. Furthermore, the cost of subsequent replacement of unserviceable wearable PFDs should not exceed the current cost of replacement of Type IV PFDs. Therefore, the Coast Guard has not included a recurring cost in this analysis.

Statistics compiled by the Coast Guard for 1990 indicate that of 865 boating fatalities, there were 300 drowning fatalities where PFDs were not used, or where there were insufficient or no PFDs on board vessels under 16 feet in length, the category of vessels directly affected by this rulemaking. Economic research indicates that $2.5 million per statistical life saved is a reasonable estimate of people's willingness to pay for safety. This figure is used to help quantify benefits of a rulemaking and in no way implies that the Coast Guard has actually attempted to set a value on a human life. Taking this into account, if as few as 6 of the estimated 300 drowning fatalities on vessels under 16 feet in length are prevented annually, the benefits of requiring the carriage of wearable Type I, II, or III PFDs on all recreational vessels will exceed the estimated one-time $72 million cost within five years. The Coast Guard anticipates the annual saving of lives to continue indefinitely.

Small Entities

Under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*). the Coast Guard must consider whether this rule will have a significant impact on a substantial number of small entities. "Small entities" include independently owned and operated small businesses that are not dominant in their field and that otherwise qualify as "small business concerns" under section 3 of the Small Business Act (15 U.S.C. 632). The overall impact of this rule will be to provide clearer and more appropriate requirements for carrying personal flotation devices on recreational vessels, leading to a safer recreational boating environment. To minimize the potential economic impact, the Coast Guard has chosen to tier the effective date of the wearable PFD carriage requirements by allowing two years for the boating public until May 1, 1995, (two boating seasons) and an additional year for boat rental and livery businesses until May 1, 1996 (three boating seasons), to comply with the requirements of § 175.15(a). It may have a one-time financial benefit as high as $72 million to PFD manufacturers and retailers, some of which may be small entities. It will primarily impact individual recreational boaters, and boat rental or livery businesses, which also may be small entities, to a lesser extent. To the extent that small businesses are affected, the effect will be spread out over a two- to three-year period.

Therefore, the Coast Guard certifies under 5 U.S.C. 605(b) that this rule will not have a significant economic impact on a substantial number of small entities.

Collection of Information

This rules contains no collection of information requirements under the Paperwork Reduction Act (44 U.S.C. 3501 *et seq.*).

Federalism

The Coast Guard has analyzed this rule under the principles and criteria contained in Executive Order 12612 and has determined that this rule does not have sufficient federalism implications to warrant the preparation of a further Federalism Assessment. This rule is intended to preempt State regulation and law on the same subject matter where they are not identical with it because recreational boating is a national activity and this rule provides uniform requirements for PFD carriage. However, portions of this rule are designed to provide for additional regulatory discretion by the States, where appropriate, because of special local conditions. Additionally, the National Association of State Boating Law Administrators (NASBLA) has been consulted regarding the exemption from preemption portion of this rule. A copy of the NPRM was provided to all NASBLA members and 18 responses were received from the States.

Environment

The Coast Guard considered the environmental impact of this rule and concluded that, under sections 2.B.2(c) and (1) of Commandant Instruction M16475.1B, this rule is categorically excluded from further environmental documentation. This rule governs regulation of PFD carriage and use, and has no environmental consequences. A Categorical Exclusion Determination is available in the rulemaking docket for inspection or copying where indicated under **ADDRESSES.**

List of Subjects

33 CFR Part 175

Marine Safety.

33 CFR Part 181

Labeling, Marine safety, Reporting and recordkeeping requirements.

46 CFR Part 160

Marine safety, Reporting and recordkeeping requirements.

For the reasons set out in the preamble, the Coast Guard amends 33 CFR parts 175 and 181, and 46 CFR part 160 as follows:

Title 33, Code of Federal Regulations

PART 175—EQUIPMENT REQUIREMENTS

1. The authority citation for part 175 continues to read as follows:

Authority: 46 U.S.C. 4302; 49 CFR 1.46.

2. In § 175.1, paragraph (e) is added to read as follows:

§ 175.1 Applicability

* * * * *

(e) Seaplanes on the water.

3. Section 175.3 is revised to read as follows:

§ 175.3 Definitions.

As used in this part:

Boat means any vessel manufactured or used primarily for noncommercial use; leased, rented, or chartered to another for the latter's noncommercial use; or engaged in the carrying of six or fewer passengers.

Passenger means every person carried on board a vessel other than:

(1) The owner or his representative;

(2) The operator;

(3) Bona fide members of the crew engaged in the business of the vessel who have contributed no consideration for their carriage and who are paid for their services; or

(4) Any guest on board a vessel which is being used exclusively for pleasure purposes who has not contributed any

consideration, directly or indirectly, for his carriage.

Racing shell, rowing scull, racing canoe, and racing kayak means a manually propelled vessel that is recognized by national or international racing associations for use in competitive racing and one in which all occupants row, scull, or paddle, with the exception of a coxswain, if one is provided, and is not designed to carry and does not carry any equipment not solely for competitive racing.

Recreational vessel means any vessel being manufactured or operated primarily for pleasure; or leased, rented, or chartered to another for the latter's pleasure. It does not include a vessel engaged in the carrying of six or fewer passengers.

Sailboard means a sail propelled vessel with no freeboard and equipped with a swivel mounted mast not secured to a hull by guys or stays.

Use means operate, navigate, or employ.

Vessel includes every description of watercraft used or capable of being used as a means of transportation on the water.

3. A new § 175.5 is added to read as follows:

§ 175.5 Exemption from preemption.

The States are exempted from preemption by Federal regulations when establishing, continuing in effect, or enforcing State laws and regulations on the wearing or the carriage of personal flotation devices directly related to the following subject areas within the jurisdictional boundaries of the State:

(a) Children on board any vessel;

(b) Operating a canoe or kayak;

(c) Operating a sailboard; and

(d) Operating a personal watercraft.

4. Section 175.11 is revised to read as follows:

§ 175.11 Applicability.

This subpart applies to all recreational vessels that are propelled or controlled by machinery, sails, oars, paddles, poles, or another vessel.

5. Section 175.15 is revised to read as follows:

§ 175.15 Personal flotation devices required.

Except as provided in § 175.17:

(a) No person may use a recreational vessel unless at least one PFD of the following types is on board for each person:

(1) Type I PFD;

(2) Type II PFD; or

(3) Type III PFD.

(b) No person may use a recreational vessel 16 feet or more in length unless one Type IV PFD is on board in addition to the total number of PFD's required in paragraph (a) of this section.

6. Section 175.17 is revised to read as follows:

§ 175.17 Exemptions.

(a) A Type V PFD may be carried in lieu of any PFD required under § 175.15, provided:

(1) The approval label on the Type V PFD indicates that the device is approved.

(i) For the activity in which the vessel is being used; or

(ii) As a substitute for a PFD of the Type required on the vessel in use;

(2) The PFD is used in accordance with any requirements on the approval label; and

(3) The PFD is used in accordance with requirements in its owner's manual, if the approval label makes reference to such a manual.

(b) Canoes and kayaks 16 feet in length and over are exempted from the requirements for carriage of the additional Type IV PFD required under § 175.15(b).

(c) Racing shells, rowing sculls, racing canoes and racing kayaks are exempted from the requirements for carriage of any Type PFD required under § 175.15.

(d) Sailboards are exempted from the requirements for carriage of any Type PFD required under § 175.15.

(e) Recreational submersibles are exempted from the requirements for carriage of any Type PFD required under § 175.15, provided the vessel carries for each person on board:

(1) A USCG approved inflatable PDG for commercial submersibles; or

(2) A flotation device that provides:

(i) A minimum of 22 pounds of buoyancy inflated;

(ii) Has a means of manual inflation that can be activated with one quick and positive motion; and

(iii) Has an inflation chamber that is free from any leaks that can be visually detected by holding the device under water.

This exemption will terminate on April 30, 1995, unless sooner superseded, rescinded or otherwise terminated.

(f) Vessels of the United States used by foreign competitors while practicing for or racing in competition are exempted from the carriage of any PFD required under § 175.15, provided the vessel carries one of the sponsoring foreign country's acceptable flotation devices for each foreign competitor on board.

(g) Prior to May 1, 1996, a Type IV PFD may be carried in lieu of any Type PFD required under § 175.15(a) for each person on the vessel, provided the recreational vessel is:

(1) Leased or rented to another for the latter's pleasure as part of a livery or rental business; and

(2) Manually-propelled.

PART 181—MANUFACTURER REQUIREMENTS

7. Section 181.703 is amended by adding a new paragraph (c) to read as follows:

§ 181.703 PFD information pamphlet requirements.

* * * * *

(c) A manufacturer of personal flotation devices may deviate from UL standard 1123 required text, as required under paragraph (a) of this section, to provide an alternate PFD information pamphlet that reflects the PFD carriage requirements in § 175.15 for recreational vessels under 16 feet in length.

Title 46, Code of Federal Regulations

PART 160—LIFESAVING EQUIPMENT

8. Section 160.048–6 is amended by adding a new paragraph (c) to read as follows:

§ 160.048–6 Marking.

* * * * *

(c) A manufacturer of personal flotation devices may deviate from the marking requirements of paragraph (a)(1) of this section in order to display information that reflects the PFD carriage requirements in 33 CFR 175.15 for recreational vessels under 16 feet in length.

9. Section 160.049–6 is amended by adding a new paragraph (c) to read as follows:

§ 160.049–6 Marking.

* * * * *

(c) A manufacturer of personal flotation devices may deviate from the marking requirements of paragraph (a)(1) of this section in order to display information that reflects the PFD carriage requirements in 33 CFR 175.15 for recreational vessels under 16 feet in length.

10. Section 160.050–6 is amended by adding a new paragraph (c) to read as follows:

§ 160.050–6 Marking.

* * * * *

(c) A manufacturer of personal flotation devices may deviate from the marking requirements of paragraph (a) of this section in order to display information that reflects the PFD carriage requirements in 33 CFR 175.15 for recreational vessels under 16 feet in length.

1. Section 160.064–4 is amended by adding a new paragraph (c) to read as follows:

§ 160.064–4 Marking.

* * * * *

(c) A manufacturer of personal flotation devices may deviate from the marking requirements of paragraph (a)(2) of this section in order to display information that reflects the PFD carriage requirements in 33 CFR 175.15 for recreational vessels under 16 feet in length.

Dated: July 28, 1993.

W. J. Ecker,

Rear Admiral, Coast Guard, Chief, Office of Navigation Safety and Waterway Services.

[FR Doc. 93–18552 Filed 8–3–93; 8:45 am]

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August 4, 1993

Part IV

Department of Health and Human Services

Food and Drug Administration

21 CFR Part 103

Quality Standards for Foods With No Identity Standards; Bottled Water; Proposed Rule

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Food and Drug Administration

21 CFR Part 103

[Docket No. 93N–0085]

Quality Standard for Foods With No Identity Standards; Bottled Water

AGENCY: Food and Drug Administration, HHS.

ACTION: Proposed rule.

SUMMARY: The Food and Drug Administration (FDA) is proposing to revise its bottled water quality standard to establish or modify the allowable levels for 5 inorganic chemicals (IOC's) and 18 synthetic organic chemicals (SOC's), including 3 synthetic volatile organic chemicals (VOC's), 9 pesticide chemicals, and 6 nonpesticide chemicals. FDA is also not proposing any change in the existing allowable level for sulfate in the bottled water quality standard. These actions are in response to a rulemaking by the Environmental Protection Agency (EPA) that established maximum contaminant levels (MCL's) for the 5 IOC's and 18 SOC's and deferred establishing an MCL for sulfate in public drinking water.

DATES: Written comments by October 4, 1993. The agency is proposing that any final rule that it may issue based upon this proposal become effective 180 days after the date of publication of the final rule in the **Federal Register**.

ADDRESSES: Submit written comments to the Dockets Management Branch (HFA–305), Food and Drug Administration, rm. 1–23, 12420 Parklawn Dr., Rockville, MD 20857.

FOR FURTHER INFORMATION CONTACT: Michael E. Kashtock, Center for Food Safety and Applied Nutrition (HFS–306), Food and Drug Administration, 200 C St. SW., Washington, DC 20204, 202–205–5229.

SUPPLEMENTARY INFORMATION:

I. Background

EPA promulgates National Primary Drinking Water Regulations (NPDWR's) to protect the public health from the adverse effects of contaminants in drinking water. EPA promulgates National Secondary Drinking Water Regulations (NSDWR's), consisting of secondary maximum contaminant levels (SMCL's), to protect the public welfare from adverse aesthetic effects, such as water color, odor, appearance, and taste. In addition, at the time that it promulgates NPDWR's, EPA promulgates maximum contaminant level goals (MCLG's), which are health goals that are based solely on considerations of protecting the public from adverse effects of drinking water contamination.

NPDWR's are enforceable standards that consist of either an MCL or a required treatment technique for each contaminant. EPA sets the MCL for a contaminant as close as feasible (with the use of the best technology or other means available, taking cost into consideration) to the MCLG, the level at which no known or anticipated adverse health effects occur and that provides an adequate margin of safety. When it is not feasible to establish an MCL for a specific contaminant, EPA can establish a treatment technique requirement for removal or reduction of that contaminant from drinking water to protect the public health from the adverse effects of that contaminant.

In the **Federal Register** of July 17, 1992 (57 FR 31776) (hereinafter referred to as the July 17, 1992, final rule), EPA published a final rule promulgating NPDWR's consisting of MCL's for 18 SOC's and 5 IOC's. Furthermore, in that final rule, EPA deferred establishing an MCL for sulfate in public drinking water. EPA had initiated this rulemaking with a proposal that it published in the **Federal Register** of July 25, 1990 (55 FR 30370) (hereinafter referred to as the July 25, 1990, proposal).

Under section 410 of the Federal Food, Drug, and Cosmetic Act (the act) (21 U.S.C. 349), whenever EPA prescribes interim or revised NPDWR's under section 1412 of Title XIV of the Public Health Service Act (The Safe Drinking Water Act (SDWA) (42 U.S.C. 300f through 300j-9)), FDA is required to consult with EPA and, within 180 days after the promulgation of such drinking water regulations, "* * * either promulgate amendments to regulations under this chapter applicable to bottled drinking water or publish in the **Federal Register** * * * reasons for not making such amendments." In accordance with section 410 of the act, FDA has consulted with EPA and is proposing to adopt as allowable levels in the quality standard for bottled water the MCL's that EPA established in the July 17, 1992, final rule. FDA is also not proposing any change in the existing allowable level for sulfate in bottled water.

II. The EPA Standards

Section 1412(b) of the SDWA, as amended in 1986, requires EPA to promulgate NPDWR's for 83 contaminants, including 22 of the 23 contaminants that were the subject of the July 17, 1992, final rule. Although the remaining contaminant, hexachlorobenzene, was not on the list of 83 contaminants, EPA established an MCL for it because this chemical has been found in drinking water and may cause adverse human health effects (57 FR 31776 at 31781).

A. MCL's for 23 Contaminants

In its July 17, 1992, final rule, EPA promulgated NPDWR's for 5 IOC's and 18 SOC's by establishing MCL's for these chemical contaminants in public drinking water, as shown in Tables 1 and 2.

TABLE 1—MAXIMUM CONTAMINANT LEVELS ESTABLISHED BY EPA FOR INORGANIC CHEMICALS IN DRINKING WATER

Chemical	Maximum Contaminant Level (milligram per liter, mg/L)
Antimony	0.006
Beryllium	0.004
Cyanide	0.2
Nickel	0.1
Thallium	0.002

TABLE 2—MAXIMUM CONTAMINANT LEVELS ESTABLISHED BY EPA FOR SYNTHETIC ORGANIC CHEMICALS IN DRINKING WATER

Chemicals	Maximum Contaminant Level (milligram per liter, mg/L)
Volatile Organic Chemicals:	
Dichloromethane	0.005
1,2,4-Trichlorobenzene	0.07
1,1,2-Trichloroethane	0.005
Pesticides:	
Dalapon	0.2
Dinoseb	0.007
Diquat	0.02
Endothall	0.1
Endrin	0.002
Glyphosate	0.7
Oxamyl	0.2
Picloram	0.5
Simazine	0.004
Nonpesticide Chemicals:	
Benzo(a)pyrene	0.0002
Di(2-ethylhexyl)adipate	0.4
Di(2-ethylhexyl)phthalate	0.006
Hexachlorobenzene	0.001
Hexachloro-cyclopentadiene	0.05
2,3,7,8-TCDD (Dioxin)	3×10^{-8}

B. Deferral of an MCL for Sulfate

In its July 25, 1990, proposal (55 FR 30370 at 30383), based on available health information, EPA proposed two alternative MCLG's of 400 and 500 mg/

L for sulfate in public drinking water. In addition, because the available technology (i.e., reverse osmosis and ion exchange) can remove sulfate from drinking water to achieve levels of sulfate below the proposed MCLG's, EPA proposed two alternative MCL's for sulfate of 400 and 500 mg/L. EPA stated that no evidence of adverse chronic health effects in animals or humans exists from exposure to sulfate, and that the only adverse effects observed from acute exposure to sulfate were diarrhea and dehydration, particularly to unacclimated populations (e.g., travelers and infants).

The proposed option to set the MCLG for sulfate at 400 mg/L was based on the recommendation of EPA's Science Advisory Board and on the recognition that the World Health Organization has established a standard guideline level of not more than 400 mg/L of sulfate in drinking water. In proposing a second option to set the sulfate MCLG at 500 mg/L, EPA considered studies that showed an increased laxative effect from exposure to sulfate concentrations above 500 mg/L. In addition, EPA noted that for adequate protection against adverse physiological effects, the Canadian guideline for the maximum acceptable level of sulfate in drinking water is set at 500 mg/L (55 FR 30370 at 30383).

However, after further review of issues regarding sulfate regulation, such as the high cost of the best available technology for sulfate removal from drinking water (i.e., reverse osmosis and ion exchange), its relatively low risk, and the primary impact of high sulfate levels on the transient consumer, EPA deferred establishing an MCLG or an MCL for sulfate until several sulfate issues were resolved (57 FR 31776 at 31815). These issues include: (1) Whether further studies are needed to determine the time required for infants to acclimate to high sulfate-containing water, (2) whether new approaches are needed to regulate sulfate that primarily affects transient populations, and (3) whether EPA should revise its definition of "best available technology" for small water systems based on a determination of what should be considered affordable for such systems. EPA stated that, in the interim, it would issue a health advisory for sulfate, encourage the States to conduct additional monitoring of systems that may have high sulfate levels, and encourage the use of alternate water supplies where appropriate.

III. Reorganization and Proposed Recodification of 21 CFR 103.35

FDA anticipates that it will add numerous allowable levels to the quality standard regulations for bottled water in § 103.35 (21 CFR 103.35) in response to EPA actions under the SDWA. To accommodate these new allowable levels, FDA reorganized § 103.35(d) (the paragraph that contains allowable levels for individual chemical contaminants) as part of a final rule establishing allowable levels for 7 VOC's (58 FR 378, January 5, 1993). As a result, § 103.35(d)(3) is now divided to reflect the basic categories of chemical contaminants. The allowable levels for IOC's are in § 103.35(d)(3)(i); the allowable levels for VOC's are in § 103.35(d)(3)(ii); the allowable levels for pesticides and other SOC's are in § 103.35(d)(3)(iii); and the allowable levels for chemicals for which EPA has established SMCL's are in paragraph § 103.35(d)(3)(iv). In addition, § 103.35(d)(3)(v), (d)(3)(vi), and (d)(3)(vii) list the analytical methods that FDA has incorporated by reference for use in determining compliance with the allowable levels. The amendments to the bottled water quality standard that FDA is proposing in this document reflect the reorganized format of § 103.35(d).

In the **Federal Register** of January 5, 1993 (58 FR 393), FDA published a proposal to establish a standard of identity for bottled water in proposed 21 CFR 165.110(a) (hereinafter called the January 5, 1993, proposal). In addition, FDA proposed to move the standard of quality for bottled water from § 103.35 to proposed § 165.110 because 21 CFR 103.5(c) states that, should a standard of identity be established for any of the foods defined by a standard of quality in 21 CFR part 103, the standard of quality will be recodified to appear in the same part of the regulations as the standard of identity. Therefore, if the January 5, 1993, proposal to establish an identity standard for bottled water becomes a final rule, the chemical quality standard for bottled water contained in the reorganized § 103.35(d) will be recodified as § 165.110(b)(4).

IV. The FDA Proposal

A. The Agency's Approach to the Bottled Water Quality Standard Established Under Section 410 of the Act

Under section 401 of the act (21 U.S.C. 341), FDA may promulgate a regulation establishing a standard of quality for a food under its common or usual name when, in the judgment of the agency, such action will promote honesty and fair dealing in the interest of consumers. FDA established a quality standard for bottled water on November 26, 1973 (38 FR 32558). As stated above, the quality standard for bottled water is set forth in § 103.35.

Producers of bottled water are responsible for ensuring, through appropriate manufacturing techniques and sufficient quality control procedures, that all bottled water products introduced or delivered for introduction into interstate commerce comply with the quality standard. Bottled water that is of a quality that is below the prescribed standard is required by § 103.35(f) to be labeled with a statement of substandard quality. Moreover, any bottled water containing a substance at a level that causes the food to be adulterated under section 402 of the act (21 U.S.C. 342) is subject to regulatory action, even if the bottled water bears a label statement of substandard quality.

FDA has traditionally fulfilled its obligation under section 410 of the act to respond to EPA's issuance of NPDWR's by amending the quality standard for bottled water to maintain compatibility with EPA's drinking water regulations. In general, FDA believes that, with few exceptions, the EPA standards for contaminants in drinking water are appropriate as allowable levels for contaminants in the quality standard for bottled water when bottled water may be expected to contain the contaminants at issue. FDA has generally not duplicated the efforts of EPA in judging the adequacy of NPDWR's for the protection of the public health, nor has it duplicated EPA's efforts in judging the adequacy of NSDWR's for control of aesthetic characteristics affecting consumer acceptance of drinking water. It would be inappropriate and redundant for FDA to reevaluate or revise the drinking water standards prescribed by EPA, the agency with primary responsibility for these standards. Further, because bottled water is increasingly used in some households as a replacement for tap water, consumption patterns considered by EPA for tap water can be used as a conservative estimate for the maximum expected consumption of bottled water. Therefore, FDA's view is that in cases where bottled water is subject to the same source contaminants as tap water (e.g., when bottled water is produced with the same source waters used by public water systems), allowable levels for contaminants set to ensure the safety of bottled water, and levels set to ensure its aesthetic quality, should normally correspond to the

levels set by EPA as the NPDWR's and NSDWR's for tap water.

B. Quality Standard for Chemical Contaminants

FDA has evaluated the MCL's that EPA has established based on available health effects information for the 5 IOC's and 18 SOC's in public drinking water and tentatively concludes that the MCL's, which are set as close as feasible to the MCLG's, are adequate for the protection of the public from adverse health effects from these contaminants in drinking water. Further, FDA tentatively concludes that the EPA's MCL's for these 23 chemical contaminants are appropriate as allowable levels in the quality standard for bottled water. Some sources for bottled water may be expected to contain these contaminants, and thus adopting allowable levels for these contaminants will ensure that the quality of bottled water is comparable to the quality of public drinking water that meets EPA standards. Therefore, FDA is proposing to adopt EPA's MCL's for the 23 chemical contaminants as allowable levels in bottled water.

1. Inorganic Chemicals Contaminants

FDA is proposing to establish in § 103.35(d)(3)(i) allowable levels in bottled water for the following five IOC contaminants: antimony at 0.006 mg/L, beryllium at 0.004 mg/L, cyanide at 0.2 mg/L, nickel at 0.1 mg/L, and thallium at 0.002 mg/L. For the reasons explained above, the levels reflect the MCL's that EPA established in the July 17, 1992, final rule. In § 103.35(d)(3)(v), FDA is proposing to incorporate by reference the analytical methods that EPA cited for determining the levels of these IOC contaminants in drinking water.

EPA deferred establishing an MCL for sulfate in the July 17, 1992, final rule and did not revise the existing SMCL of 250 mg/L for sulfate (40 CFR 143.3) in drinking water. As discussed above, EPA plans to establish an MCL for sulfate when it resolves several issues concerning the regulation of this chemical. Therefore, until EPA establishes an MCL for sulfate in public drinking water, FDA is not proposing any change in the existing allowable level of 250 mg/L for sulfate in the bottled water quality standard. FDA established this level in the **Federal Register** of November 26, 1973 (38 FR 32558), based on the drinking water standard for sulfate established by the Public Health Service on March 6, 1962 (27 FR 2152). FDA is, however, transferring the listing for sulfate from § 103.35(d)(1) to proposed § 103.35(d)(3)(iv), which lists the allowable levels for chemical contaminants for which EPA has established SMCL's. In proposed § 103.35(d)(3)(vii), FDA is proposing to incorporate by reference the analytical methods that EPA cited in its July 25, 1990, proposal (55 FR 30370 at 30438) for determining the level of sulfate in drinking water. Although FDA is not proposing to change the allowable level for sulfate in bottled water, it is addressing the status of this chemical in the bottled water quality standard because EPA has addressed the issue of regulating sulfate in drinking water.

2. Volatile Organic Chemical Contaminants

FDA is proposing to establish in § 103.35(d)(3)(ii) allowable levels in bottled water for the following three VOC's: dichloromethane at 0.005 mg/L, 1,2,4-trichlorobenzene at 0.07 mg/L, and 1,1,2-trichloroethane at 0.005 mg/L. For the reasons explained above, these levels reflect the MCL's that EPA has established. In § 103.35(d)(3)(vi), FDA is proposing to incorporate by reference the analytical methods that EPA has cited for determining the levels of these VOC contaminants in drinking water.

3. Synthetic Organic Chemical Contaminants

In the **Federal Register** of March 6, 1979 (44 FR 12169), FDA established an allowable level for endrin (one of the 9 pesticides addressed in this proposal) at 0.0002 mg/L in bottled water in response to EPA's promulgation of an MCL for endrin at that level in the National Interim Primary Drinking Water Regulations (40 FR 59566 at 59570, December 24, 1975). Thus, in § 103.35(d)(1), the allowable level for endrin is listed at 0.0002 mg/L. However, in the July 17, 1992, final rule, EPA promulgated NPDWR's that established an MCL of 0.002 mg/L for endrin. Based on EPA's decision to set the MCL for endrin at 0.002 mg/L, FDA tentatively concludes that 0.002 mg/L for endrin is adequately protective of public health and is appropriate as an allowable level in bottled water. Therefore, to maintain compatibility with EPA's NPDWR's, FDA is proposing to revise the allowable level for endrin from 0.0002 mg/L to 0.002 mg/L in bottled water. In addition, FDA intends to remove the current entry for endrin in § 103.35(d)(1) and list the revised allowable level for this chemical contaminant in § 103.35(d)(3)(iii). In § 103.35(d)(3)(vi), FDA is proposing to incorporate by reference the analytical methods that EPA cited for determining the level of endrin in drinking water.

FDA is also proposing to establish in § 103.35(d)(3)(iii) allowable levels in bottled water for the following 14 SOC's: 8 pesticides—dalapon at 0.2 mg/L, dinoseb at 0.007 mg/L, diquat at 0.02 mg/L, endothall at 0.1 mg/L, glyphosate at 0.7 mg/L, oxamyl at 0.2 mg/L, picloram at 0.5 mg/L, and simazine at 0.004 mg/L, and 6 nonpesticides—benzo(a)pyrene at 0.0002 mg/L, di(2-ethylhexyl)adipate at 0.4 mg/L, di(2-ethylhexyl)phthalate at 0.006 mg/L, hexachlorobenzene at 0.001 mg/L, hexachlorocyclopentadiene at 0.05 mg/L, and 2,3,7,8-Tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD; dioxin) at 3×10^{-8} mg/L. The proposed allowable levels reflect the MCL's that EPA has established for these chemicals in public drinking water (July 17, 1992, 57 FR 31776). In § 103.35(d)(3)(vi), FDA is proposing to incorporate by reference the analytical methods that EPA has cited for determining the levels of these SOC contaminants.

C. Analytical Methods

In listing appropriate analytical methods for determining the five IOC's in its July 17, 1992, final rule and for sulfate in its July 25, 1990, proposal, EPA frequently cited its own developed version, and equivalent versions published by other organizations, of a specific method. For example, for determining beryllium by the atomic absorption furnace method, EPA cited its own developed version, the version published by the American Society for Testing Materials, and the version published jointly by the American Public Health Association, the American Water Works Association, and the Water Pollution Control Federation. To minimize the resource burden on FDA associated with periodic updating of methods incorporated by reference (as is required by 5 U.S.C 552(a) and 1 CFR part 51), where an EPA version of a method exists for an IOC, FDA is proposing to incorporate by reference in § 103.35(d)(3)(v) only that version of the method. When conducting analyses for these IOC's in bottled water for compliance purposes, FDA will use the methods incorporated by reference (i.e., the EPA version).

For determining the levels of the chemical contaminants addressed in this proposal, FDA is proposing to incorporate by reference the most recent versions of the analytical methods that EPA cited in its July 17, 1992, final rule. Furthermore, because some of these methods are also applicable to contaminants addressed in two recent proposals to amend the bottled water quality standard (58 FR 382 and 389, January 5, 1993) and a recent final rule

amending the bottled water quality standard (58 FR 378, January 5, 1993), incorporation of the methods in this proposal will add to the lists of analytical methods that FDA has cited in those documents. Therefore, in this document, FDA is consolidating and relisting in alphabetical order all of the appropriate analytical methods in proposed § 103.35(d)(3)(v), (d)(3)(vi), and (d)(3)(vii).

V. Related Provisions of Current Good Manufacturing Practice for Bottled Water

FDA has established current good manufacturing practice (CGMP) regulations for bottled water, including mineral water, in part 129 (21 CFR part 129). In § 129.35(a)(3)(i), the CGMP regulations require analysis of source water as often as necessary, but at least once each year, for chemical contaminants. Further, to ensure that a plant's production complies with applicable standards, § 129.80(g)(2) requires analysis, at least annually, of a representative sample from a batch or segment of a continuous production run for each type of bottled drinking water produced during a day's production. The CGMP regulations also require in § 129.80(a) sampling and analysis, as often as necessary, of source water taken after processing but before bottling, to ensure the uniformity and effectiveness of the processes performed by the plant.

If this proposal becomes a final rule, these sampling and testing requirements will continue to apply for sulfate and endrin and will apply to the other 22 chemical contaminants that FDA is proposing to add to the list of chemical contaminants in § 103.35. However, each lot of bottled water must comply with the quality standard for chemical contaminants, and compliance with the minimum annual CGMP testing requirements of part 129 does not exempt a firm from regulatory action if any lot of bottled water products does not meet the chemical quality standard for bottled water.

VI. Environmental Impact

The agency has determined under 21 CFR 25.24(b)(1) that this action is of a type that does not individually or cumulatively have a significant effect on the human environment. Therefore, neither an environmental assessment nor an environmental impact statement is required.

VII. Economic Impact

FDA has examined the economic implications of this proposed rule amending part 103 as required by the Regulatory Flexibility Act and Executive Orders 12291 and 12612. The Regulatory Flexibility Act requires regulatory relief for small businesses where feasible. Executive Order 12291 compels Federal agencies to use cost-benefit analysis as a component of decisionmaking, and Executive Order 12612 requires Federal agencies to ensure that Federal solutions, rather than State or local solutions, are necessary. The agency finds that this proposed rule is not a major rule as defined by Executive Order 12291. In compliance with the Regulatory Flexibility Act (Pub. L. 96–354), FDA intends to certify that the proposed rule will not have a significant impact on a substantial number of small businesses. Finally, because this regulation applies to food that is in interstate commerce, FDA finds that there is no substantial federalism issue which would require an analysis under Executive Order 12612.

Because FDA does not believe that any of the 23 chemicals are found in bottled water above the levels of the proposed standards, the benefits of this proposed rule are expected to be zero. The costs of this regulation will only be for testing for these chemicals. Each bottled water plant will be required to conduct analytical tests at least once per year for compliance with each of the standards for the 23 chemicals, according to the CGMP regulations for bottled water. Analyses for many chemicals are now performed using methods in which a single test is used simultaneously for a number of chemicals. These tests cost up to $3,000. However, to the extent that tests currently being performed can be used to test for any of the 23 chemicals, there would be no additional costs imposed by this proposal. Any new tests required by this proposed regulation will place the greatest financial burden on firms with a low volume of output. At this time FDA does not have adequate information to determine whether the analytical tests that are currently performed for bottled water plants could be used to test for any or all of the 23 chemicals listed in this proposal. The agency requests comments on the additional costs, if any, that plants may have to incur for analytical tests if the proposed rule becomes final. Additional comments are requested regarding the frequency that plants will test for purposes of compliance and the financial burden of such tests on small business.

VIII. Request for Comments

Interested persons may, on or before October 4, 1993, submit to the Dockets Management Branch (address above) written comments regarding this proposal. Two copies of any comments are to be submitted, except that individuals may submit one copy. Comments are to be identified with the docket number found in brackets in the heading of this document. Received comments may be seen in the office above between 9 a.m. and 4 p.m., Monday through Friday.

IX. Effective Date

The agency intends to make any final rule that it may issue based upon this proposal effective 180 days following the date of publication of the final rule in the **Federal Register**. The agency is providing this time period to permit affected firms adequate time to take appropriate steps to bring their product into compliance with the standard imposed by the new rule. The agency is requesting comments on the proposed effective date. All comments concerning the effective date should be accompanied by data to support or justify any change in the proposed effective date.

List of Subjects in 21 CFR Part 103

Beverages, Bottled water, Food grades and standards, Incorporation by reference.

Therefore, under the Federal Food, Drug, and Cosmetic Act and under authority delegated to the Commissioner of Food and Drugs, it is proposed that 21 CFR part 103 be amended as follows:

PART 103—QUALITY STANDARDS FOR FOODS WITH NO IDENTITY STANDARDS

1. The authority citation for 21 CFR part 103 is revised to read as follows:

Authority: Secs. 201, 401, 403, 409, 410, 701, 721 of the Federal Food, Drug, and Cosmetic Act (21 U.S.C. 321, 341, 343, 348, 349, 371, 379e).

2. Section 103.35 is amended in the table in paragraph (d)(1)(i) by removing the entry for "Sulfate", and under the subheading "Organics", by removing the entry for "Endrin (1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octa-hydro-1,4-endo,endo-5,8-dimethano naphthalene)"; by adding new paragraph (d)(3)(i); by alphabetically adding new entries to the table in paragraph (d)(3)(ii); by adding new paragraphs (d)(3)(iii), (d)(3)(iv), (d)(3)(v); by revising paragraph (d)(3)(vi); and by adding new paragraph (d)(3)(vii) to read as follows:

§ 103.35 Bottled water.

* * * * *

(d) * * *

(3) * * *

(i) The allowable levels for inorganic substances are as follows:

Contaminant	Concentration in milligrams per liter (or as specified)
Antimony	0.006
Beryllium	0.004
Cyanide	0.2
Nickel	0.1
Thallium	0.002

(ii) * * *

Contaminant (CAS Reg. No.)	Concentration in milligrams per liter
* * * * *	
Dichloromethane (75–09–2)	0.005
* * * * *	
1,2,4-Trichlorobenzene (120–82–1)	0.07
* * * * *	
1,1,2-Trichloroethane (79–00–5)	0.005
* * * * *	

(iii) The allowable levels for pesticides and other synthetic organic chemicals are as follows:

Contaminant (CAS Reg. No.)	Concentration in milligrams per liter
Benzo(a)pyrene (50–32–8)	0.0002
Dalapon (75–99–0)	0.2
Di(2-ethylhexyl)adipate (103–23–1)	0.4
Di(2-ethylhexyl)phthalate (117–81–7)	0.006
Dinoseb (88–85–7)	0.007
Diquat (85–00–7)	0.02
Endothall (145–73–3)	0.1
Endrin (72–20–8)	0.002
Glyphosate (1071–53–6)	0.7
Hexachlorobenzene (118–74–1)	0.001
Hexachlorocyclopentadiene (77–47–4)	0.05
Oxamyl (23135–22–0)	0.2
Picloram (1918–02–1)	0.5
Simazine (122–34–9)	0.004
2,3,7,8–TCDD (Dioxin) (1746–01–6)	3×10^{-8}

(iv) The allowable levels for certain chemicals for which EPA has established secondary maximum contaminant levels in its drinking water regulations are as follows:

Contaminant	Concentration in milligrams per liter
Sulfate	250.0

(v) Analyses to determine compliance with the requirements of paragraph (d)(3)(i) of this section shall be conducted in accordance with an applicable method or applicable revisions to the methods listed in paragraphs (d)(3)(v)(A) through (d)(3)(v)(N) of this section and described (unless otherwise noted) in "Methods of Chemical Analysis of Water and Wastes," EPA Environmental Monitoring and Support Laboratory (EMSL), Cincinnati, OH 45268 (EPA–600/4–79–020), March 1983, which is incorporated by reference in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Except as otherwise indicated, copies of this publication are available from the National Technical Information Service, U.S. Department of Commerce, 5825 Port Royal Rd., Springfield, VA 22161, or are available for inspection at the Office of the Federal Register, 800 North Capitol St. NW., suite 700, Washington, DC. Applicable revisions to methods 200.7, 200.8, and 200.9, as cited in paragraphs (d)(3)(v)(A) through (d)(3)(v)(N) of this section (unless otherwise noted), are contained in "Methods for the Determination of Metals in Environmental Samples," Office of Research and Development, Washington, DC 20460, (EPA/600/4–91/010), June 1991, which is incorporated by reference in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Except as otherwise indicated, copies of this publication are available from the National Technical Information Service, U.S. Department of Commerce, 5825 Port Royal Rd., Springfield, VA 22161, or are available for inspection at the Office of the Federal Register, 800 North Capitol St. NW., suite 700, Washington, DC.

(A) *Antimony*—(*1*) Method 204.2—Atomic absorption; furnace technique, in "Methods of Chemical Analysis of Water and Waste," Method 204.2, March 1983, U.S. EPA, EMSL.

(*2*) Method 200.8—Inductively coupled plasma; mass spectrometry technique, entitled "Determination of Trace Elements in Water and Wastes by Inductively Coupled Plasma—Mass Spectrometry," Method 200.8, April 1991, Revision 4.4, U.S. EPA, EMSL.

(*3*) Method 200.9—Atomic absorption; platform technique, entitled "Determination of Trace Elements by Stabilized Temperature Graphite Furnace Atomic Absorption Spectrometry," April 1991, Revision 1.2, U.S. EPA, EMSL.

(*4*) Method D–3697–87—Hydride-atomic absorption technique, contained in the Annual Book of ASTM Standards, vols. 11.01 and 11.02, 1991, American Society for Testing and Materials, 1916 Race St., Philadelphia, PA 19103, which is incorporated by reference in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies of this publication are available from American Society for Testing and Materials, 1916 Race St., Philadelphia, PA 19103, or are available for inspection at the Office of the Federal Register, 800 North Capitol St. NW., suite 700, Washington, DC.

(B) *Asbestos*—(*1*) Transmission electron microscopy technique, entitled "Analytical Method for Determination of Asbestos Fibers in Water," EPA–600/4–83–043, which is incorporated by reference in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies of this publication are available from the EPA Environmental Research Laboratory, Athens, GA 30613, or are available for inspection at the Office of the Federal Register, 800 North Capitol St. NW., suite 700, Washington, DC.

(*2*) [Reserved]

(C) *Barium*—(*1*) Method 208.1—Atomic absorption; direct aspiration technique, in "Methods of Chemical Analysis of Water and Waste," Method 208.1, March 1983, U.S. EPA, EMSL.

(*2*) Method 208.2—Atomic absorption; furnace technique, in "Methods of Chemical Analysis of Water and Waste," Method 208.2, March 1983, U.S. EPA, EMSL.

(*3*) Method 200.7—Inductively coupled plasma technique, entitled "Determination of Trace Elements in Water and Wastes by Inductively Coupled Plasma—Atomic Emission Spectrometry," April 1991, Revision 3.3, U.S. EPA, EMSL.

(D) *Beryllium*—(*1*) Method 210.2—Atomic absorption; furnace technique, in "Methods of Chemical Analysis of Water and Waste," Method 210.2, March 1983, U.S. EPA, EMSL.

(*2*) Method 200.7—Inductively coupled plasma technique, entitled "Determination of Trace Elements in Water and Wastes by Inductively Coupled Plasma—Atomic Emission Spectrometry," April 1991, Revision 3.3, U.S. EPA, EMSL.

(*3*) Method 200.8—Inductively coupled plasma; mass spectrometry technique, entitled "Determination of Trace Elements in Water and Wastes by Inductively Coupled Plasma—Mass Spectrometry," April 1991, Revision 4.4, U.S. EPA, EMSL.

(*4*) Method 200.9—Atomic absorption; platform technique, entitled "Determination of Trace Elements by Stabilized Temperature Graphite Furnace Atomic Absorption Spectrometry," April 1991, Revision 1.2, U.S. EPA, EMSL.

(E) *Cadmium*—(*1*) Method 213.2—Atomic absorption; furnace technique,

in "Methods of Chemical Analysis of Water and Waste," Method 213.2, March 1983, U.S. EPA, EMSL.

(2) Method 200.7—Inductively coupled plasma technique, entitled "Determination of Trace Elements in Water and Wastes by Inductively Coupled Plasma—Atomic Emission Spectrometry," April 1991, Revision 3.3, U.S. EPA, EMSL.

(F) *Chromium*—(1) Method 218.2—Atomic Absorption; furnace technique, in "Methods of Chemical Analysis of Water and Waste," Method 213.2, March 1983, U.S. EPA, EMSL.

(2) Method 200.7—Inductively coupled plasma technique, entitled "Determination of Trace Elements in Water and Wastes by Inductively Coupled Plasma—Atomic Emission Spectrometry," April 1991, Revision 3.3, U.S. EPA, EMSL.

(G) *Copper*—Copper shall be measured as total recoverable metal without filtration using the following methods:

(1) Method 220.1—Atomic absorption; direct aspiration technique, in "Methods of Chemical Analysis of Water and Waste," Method 220.1, March 1983, U.S. EPA, EMSL.

(2) Method 220.2—Atomic absorption; furnace technique, in "Methods of Chemical Analysis of Water and Waste," Method 220.2, March 1983, U.S. EPA, EMSL.

(3) Method 200.7—Inductively coupled plasma technique, entitled "Determination of Trace Elements in Water and Wastes by Inductively Coupled Plasma—Atomic Emission Spectrometry," April 1991, Revision 3.3, U.S. EPA, EMSL.

(4) Method 200.8—Inductively coupled plasma; mass spectrometry technique, entitled "Determination of Trace Elements in Water and Wastes by Inductively Coupled Plasma—Mass Spectrometry," April 1991, Revision 4.4, U.S. EPA, EMSL.

(5) Method 200.9—Atomic absorption; platform technique, entitled "Determination of Trace Elements by Stabilized Temperature Graphite Furnace Atomic Absorption Spectrometry," April 1991, Revision 1.2, U.S. EPA, EMSL.

(H) *Cyanide*—(1) Method 335.1—Distillation, amenable, spectrophotometric technique, in "Methods of Chemical Analysis of Water and Waste," Method 335.1, March 1983, U.S. EPA, EMSL.

(2) Method 335.2—Distillation, spectrophotometric technique, in "Methods of Chemical Analysis of Water and Waste," Method 335.2, March 1983, U.S. EPA, EMSL.

(3) Method 335.3—Distillation, automated, spectrophotometric technique, in "Methods of Chemical Analysis of Water and Waste," Method 335.3, March 1983, U.S. EPA, EMSL.

(4) Method D–2036–89A—Distillation, selective electrode technique, contained in the Annual Book of ASTM Standards, vols. 11.01 and 11.02, 1991, American Society for Testing and Materials, 1916 Race St., Philadelphia, PA 19103, which is incorporated by reference in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies of this publication are available from American Society for Testing and Materials, 1916 Race St., Philadelphia, PA 19103, or are available for inspection at the Office of the Federal Register, 800 North Capitol St. NW., suite 700, Washington, DC.

(5) Method 4500–CN–F—Distillation, selective electrode technique, contained in "Standard Methods for the Examination of Water and Wastewater," 17th ed., American Public Health Association, American Water Works Association, Water Pollution Control Federation, 1989, which is incorporated by reference in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies of this publication are available from the Publication Office, American Public Health Association, 1051 15th St. NW., Washington, DC 20005, or are available for inspection at the Office of the Federal Register, 800 North Capitol St. NW., suite 700, Washington, DC.

(I) *Lead*—Lead shall be measured as total recoverable metal without filtration using the following methods:

(1) Method 239.2—Atomic absorption; furnace technique, in "Methods of Chemical Analysis of Water and Waste," Method 239.2, March 1983, U.S. EPA, EMSL.

(2) Method 200.8—Inductively coupled plasma; mass spectrometry technique, entitled "Determination of Trace Elements in Water and Wastes by Inductively Coupled Plasma—Mass Spectrometry," April 1991, Revision 4.4, U.S. EPA, EMSL.

(3) Method 200.9—Atomic absorption; platform technique, entitled "Determination of Trace Elements by Stabilized Temperature Graphite Furnace Atomic Absorption Spectrometry," April 1991, Revision 1.2, U.S. EPA, EMSL.

(J) *Mercury*—(1) Method 245.1—Manual cold vapor technique, in "Methods of Chemical Analysis of Water and Waste," Method 245.1, March 1983, U.S. EPA, EMSL.

(2) Method 245.2—Automated cold vapor technique, in "Methods of Chemical Analysis of Water and Waste," Method 245.2, March 1983, U.S. EPA, EMSL.

(K) *Nickel*—(1) Method 249.1—Atomic absorption; direction aspiration technique, in "Methods of Chemical Analysis of Water and Waste," Method 249.1, March 1983, U.S. EPA, EMSL.

(2) Method 249.2—Atomic absorption; furnace technique, in "Methods of Chemical Analysis of Water and Waste," Method 249.2, March 1983, U.S. EPA, EMSL.

(3) Method 200.7—Inductively coupled plasma technique, entitled "Determination of Trace Elements in Water and Wastes by Inductively Coupled Plasma—Atomic Emission Spectrometry," April 1991, Revision 3.3, U.S. EPA, EMSL.

(4) Method 200.8—Inductively coupled plasma; mass spectrometry technique, entitled "Determination of Trace Elements in Water and Wastes by Inductively Coupled Plasma—Mass Spectrometry," April 1991, Revision 4.4, U.S, EPA, EMSL.

(5) Method 200.9—Atomic absorption; platform technique, entitled "Determination of Trace Elements by Stabilized Temperature Graphite Furnace Atomic Absorption Spectrometry," April 1991, Revision 1.2, U.S. EPA, EMSL.

(L) *Nitrate and/or nitrite*—(1) Method 300.0—Ion chromatography technique, for both nitrate and nitrite, in "Methods of Chemical Analysis of Water and Waste," Method 300.0, March 1983, U.S. EPA, EMSL.

(2) Method 353.1—Automated hydrazine reduction technique, for nitrate only, in "Methods of Chemical Analysis of Water and Waste," Method 353.1, March 1983, U.S. EPA, EMSL.

(3) Method 353.2—Automated cadmium reduction technique, for both nitrate and nitrite, in "Methods of Chemical Analysis of Water and Waste," Method 353.2, March 1983, U.S. EPA, EMSL.

(4) Method 353.3—Manual cadmium reduction technique, for both nitrate and nitrite, in "Methods of Chemical Analysis of Water and Waste," Method 353.3, March 1983, U.S. EPA, EMSL.

(5) Method 354.1—Spectrophotometric technique, for nitrite only, in "Methods of Chemical Analysis of Water and Waste," Method 354.1, March 1983, U.S. EPA, EMSL.

(6) Method WeWWG/5880—Ion selective electrode technique, entitled "Orion Guide to Water and Wastewater Analysis," Form WeWWG/5880, p. 5, 1985, Orion Research, Inc., Cambridge, MA, for nitrate only, which is incorporated by reference in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies of this publication may be

obtained from Orion Research, Inc., Cambridge, MA, or are available for inspection at the Office of the Federal Register, 800 North Capitol St. NW., suite 700, Washington, DC.

(M) *Selenium*—(*1*) Method 270.2—Atomic absorption; furnace technique, in "Methods of Chemical Analysis of Water and Waste," Method 270.2, March 1983, U.S. EPA, EMSL.

(*2*) Method D3859–84A—Hydride-atomic absorption technique, contained in the Annual Book of ASTM Standards, vols. 11.01 and 11.02, 1991, American Society for Testing and Materials, 1916 Race St., Philadelphia, PA 19103, which is incorporated by reference in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies of this publication are available from American Society for Testing and Materials, 1916 Race St., Philadelphia, PA 19103, or are available for inspection at the Office of the Federal Register, 800 North Capitol St. NW., suite 700, Washington, DC.

(*3*) Method 3114B—Hydride-atomic absorption technique, contained in "Standard Methods for the Examination of Water and Wastewater," 17th ed., American Public Health Association, American Water Works Association, Water Pollution control Federation, 1989, which is incorporated by reference in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies of this publication are available from the Publication Office, American Public Health Association, 1051 15th St. NW., Washington, DC 20005, or are available for inspection at the Office of the Federal Register, 800 North Capitol St. NW., suite 700, Washington, DC.

(N) *Thallium*—(*1*) Method 279.2—Atomic absorption, furnace technique, in "Methods of Chemical Analysis of Water and Waste," Method 279.2, March 1983, U.S. EPA, EMSL.

(*2*) Method 200.8—Inductively coupled plasma; mass spectrometry technique, entitled "Determination of Trace Elements in Water and Wastes by Inductively Coupled Plasma—Mass Spectrometry," April 1991, Revision 4.4, U.S. EPA, EMSL.

(*3*) Method 200.9—Atomic absorption; platform technique, entitled "Determination of Trace Elements by Stabilized Temperature Graphite Furnace Atomic Absorption Spectrometry," April 1991, Revision 1.2, U.S. EPA, EMSL.

(vi) Analyses conducted to determine compliance with paragraphs (d)(3)(ii) and (d)(3)(iii) of this section shall, unless otherwise noted, be conducted in accordance with a relevant method contained in "Methods for the Determination of Organic Compounds in Drinking Water," Environmental Monitoring Systems Laboratory, EPA/600–4–88/039, 1988, and "Methods for the Determination of Organic Compounds in Drinking Water," Supplement One, Environmental Monitoring Systems Laboratory, EPA/600–4–90/020, 1990, and listed separately in paragraphs (d)(3)(vi)(A) through (d)(3)(vi)(S) of this section, which are incorporated by reference in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies of these publications are available from the National Technical Information Service, U.S. Department of Commerce, 5285 Port Royal Rd., Springfield, VA 22161, or are available for inspection at the Office of the Federal Register, 800 North Capitol St. NW., suite 700, Washington, DC.

(A) Method 502.1—"Volatile Halogenated Organic Compounds in Water by Purge and Trap Gas Chromatography" (applicable to VOC's).

(B) Method 502.2—"Volatile Organic Compounds in Water by Purge and Trap Capillary Column Gas Chromatography with Photoionization and Electrolytic Conductivity Detectors in Series" (applicable to VOC's).

(C) Method 503.1—"Volatile Aromatic and Unsaturated Organic Compounds in Water by Purge and Trap Gas Chromatography" (applicable to VOC's).

(D) Method 524.1—"Measurement of Purgeable Organic Compounds in Water by Packed Column Gas Chromatography/Mass Spectrometry" (applicable to VOC's).

(E) Method 524.2—"Measurement of Purgeable Organic Compounds in Water by Capillary Column Gas Chromatography/Mass Spectrometry" (applicable to VOC's).

(F) Method 504—"1,2-Dibromoethane (DBE) and 1,2-Dibromo-3-Chloropropane (DBCP) in Water by Microextraction and Gas Chromatography" (applicable to dibromochloropropane (DBCP) and ethylene dibromide (EDB)).

(G) Method 505—"Analysis of Organohalide Pesticides and Commercial Polychlorinated Biphenyl Products in Water by Micro-Extraction and Gas Chromatography" (applicable to alachlor, atrazine, chlordane, heptachlor, heptachlor epoxide, lindane, methoxychlor, toxaphene, endrin, hexachlorobenzene, hexachlorocyclopentadiene, simazine, and as a screen for PCB's).

(H) Method 506—"Determination of Phthalate and Adipate Esters in Drinking Water by Liquid-Liquid Extraction or Liquid-Solid Extraction and Gas Chromatography with Photoionization Detection" (applicable to di(2-ethylhexyl) adipate and di(2-ethylhexyl) phthalate).

(I) Method 507—"Determination of Nitrogen- and Phosphorus-Containing Pesticides in Water by Gas Chromatography with a Nitrogen-Phosphorus Detector" (applicable to alachlor, atrazine, and simazine).

(J) Method 508—"Determination of Chlorinated Pesticides in Water by Gas Chromatography with an Electron Capture Detector" (applicable to chlordane, heptachlor, heptachlor epoxide, lindane, methoxychlor, toxaphene, endrin, hexachlorobenzene, and as a screen for PCB's).

(K) Method 508A—"Screening for Polychlorinated Biphenyls by Perchlorination and Gas Chromatography" (used to quantitate PCB's as decachlorobiphenyl if detected in methods 505 or 508).

(L) Method 515.1, Revision 5.0—"Determination of Chlorinated Acids in Water by Gas Chromatography with an Electron Capture Detector" as revised May 1991 (applicable to 2,4-D, 2,4,5-TP (Silvex), pentachlorophenol, dalapon, dinoseb, and picloram).

(M) Method 525.1, Revision 3.0—"Determination of Organic Compounds in Drinking Water by Liquid-Solid Extraction and Capillary Column Gas Chromatography/Mass Spectrometry" as revised May 1991 (applicable to alachlor, atrazine, chlordane, heptachlor, heptachlor epoxide, lindane, methoxychlor, pentachlorophenol, benzo(a)pyrene, di(2-ethylhexyl) adipate, di(2-ethylhexyl) phthalate, endrin, hexachlorobenzene, hexachlorocyclopentadiene, and simazine).

(N) Method 531.1—"Measurement of N-Methylcarbamoyloximes and N-Methylcarbamates in Water by Direct Aqueous Injection HPLC with Post Column Derivatization" (applicable to aldicarb, aldicarb sulfoxide, aldicarb sulfone, carbofuran, and oxamyl (vydate)).

(O) Method 547—"Determination of Glyphosate in Drinking Water by Direct-Aqueous-Injection HPLC, Post-Column Derivatization, and Fluorescence Detection" (applicable to glyphosate).

(P) Method 548—"Determination of Endothall in Drinking Water by Aqueous Derivatization, Liquid-Solid Extraction, and Gas Chromatography with Electron-Capture Detection" (applicable to endothall).

(Q) Method 549—"Determination of Diquat and Paraquat in Drinking Water by Liquid-Solid Extraction and HPLC with Ultraviolet Detection" (applicable to diquat).

(R) Method 550—"Determination of Polycyclic Aromatic Hydrocarbons in Drinking Water by Liquid-Liquid Extraction and HPLC with Coupled Ultraviolet and Fluorescence Detection" (applicable to benzo(a)pyrene and other polynuclear aromatic hydrocarbons).

(S) Method 550.1—"Determination of Polycyclic Aromatic Hydrocarbons in Drinking Water by Liquid-Solid Extraction and HPLC with Coupled Ultraviolet and Fluorescence Detection" (applicable to benzo(a)pyrene and other polynuclear aromatic hydrocarbons).

(T) Method 1613—"Tetra- through Octa- Chlorinated Dioxins and Furans by Isotope Dilution HRGC/HRMS," U.S. EPA, Office of Water Regulations and Standards, Industrial Technology Division (April 1990) (applicable to 2,3,7,8-TCDD (Dioxin)), which is incorporated by reference in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies of this publication are available from USEPA–OST, Sample Control Center, P.O. Box 1407, Alexandria, VA 22313, or are available for inspection at the Office of the Federal Register, 800 North Capitol St. NW., suite 700, Washington, DC.

(vii) Analyses to determine compliance with the requirements of paragraph (d)(3)(iv) of this section shall be conducted in accordance with an applicable method listed in this paragraph (d)(3)(vii) and described (unless otherwise noted) in "Methods of Chemical Analysis of Water and Wastes," U.S. EPA EMSL, Cincinnati, OH 45268 (EPA–600/4–79–020), March 1983, which is incorporated by reference in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Except as otherwise indicated, copies of this publication are available from the National Technical Information Service, U.S. Department of Commerce, 5825 Port Royal Rd., Springfield, VA 22161, or are available at the Office of the Federal Register, 800 North Capitol St. NW., suite 700, Washington, DC. Applicable revisions to methods 200.7, 200.8, and 200.9 listed in paragraph (d)(3)(iv) of this section (unless otherwise noted) are contained in "Methods for the Determination of Metals in Environmental Samples," Office of Research and Development, Washington, DC 20460, (EPA/600/4–91/010), June 1991, which is incorporated by reference in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Except as otherwise indicated, copies of this publication are available from the National Technical Information Service, U.S. Department of Commerce, 5825 Port Royal Rd., Springfield, VA 22161, or are available for inspection at the Office of the Federal Register, 800 North Capitol St. NW., suite 700, Washington, DC.

(A) *Aluminum*—(*1*) Method 202.1—Atomic absorption technique; direct aspiration, in "Methods of Chemical Analysis of Water and Waste," Method 202.1, March 1983, U.S. EPA, EMSL.

(*2*) Method 202.2—Atomic absorption; graphite furnace technique, in "Methods of Chemical Analysis of Water and Waste," Method 202.2, March 1983, U.S. EPA, EMSL.

(*3*) Method 200.7—Inductively coupled plasma technique, entitled "Determination of Trace Elements in Water and Wastes by Inductively Coupled Plasma—Atomic Emission Spectrometry," April 1991, Revision 3.3, U.S. EPA, EMSL.

(*4*) Method 200.8—Inductively coupled plasma; mass spectrometry technique, entitled "Determination of Trace Elements in Water and Wastes by Inductively Coupled Plasma—Mass Spectrometry," April 1991, Revision 4.4, U.S. EPA, EMSL.

(*5*) Method 200.9—Atomic absorption; platform technique, entitled "Determination of Trace Elements by Stabilized Temperature Graphite Furnace Atomic Absorption Spectrometry," April 1991, Revision 1.2, U.S. EPA, EMSL.

(B) *Silver*—(*1*) Method 272.1—Atomic absorption technique; direct aspiration, in "Methods of Chemical Analysis of Water and Waste," Method 272.1, March 1983, U.S. EPA, EMSL.

(*2*) Method 272.2—Atomic absorption; graphite furnace technique, in "Methods of Chemical Analysis of Water and Waste," Method 272.2, March 1983, U.S. EPA, EMSL.

(*3*) Method 200.7—Inductively coupled plasma technique, entitled "Determination of Trace Elements in Water and Wastes by Inductively Coupled Plasma—Atomic Emission Spectrometry," April 1991, Revision 3.3, U.S. EPA, EMSL.

(*4*) Method 200.8—Inductively coupled plasma; mass spectrometry technique, entitled "Determination of Trace Elements in Water and Wastes by Inductively Coupled Plasma—Mass Spectrometry," April 1991, Revision 4.4, U.S. EPA, EMSL.

(*5*) Method 200.9—Atomic absorption; platform technique, entitled "Determination of Trace Elements by Stabilized Temperature Graphite Furnace Atomic Absorption Spectrometry," April 1991, Revision 1.2, U.S. EPA, EMSL.

(C) *Sulfate*—(*1*) Method 300.0—Ion chromatography technique, in "Methods of Chemical Analysis of Water and Waste," Method 300.0, March 1983, U.S. EPA, EMSL.

(*2*) Method 375.1—Automated, chloranilate technique, in "Methods of Chemical Analysis of Water and Waste," Method 375.1, March 1983, U.S. EPA, EMSL.

(*3*) Method 375.3—Gravimetric technique, in "Methods of Chemical Analysis of Water and Waste," Method 375.3, March 1983, U.S. EPA, EMSL.

(*4*) Method 375.4—Turbidimetric technique, in "Methods of Chemical Analysis of Water and Waste," Method 375.4, March 1983, U.S. EPA, EMSL.

* * * * *

Dated: April 29, 1993.

Michael R. Taylor,

Deputy Commissioner for Policy.

[FR Doc. 93–18556 Filed 8–3–93; 8:45 am]

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Printing schedules	523–3419

Laws

Public Laws Update Service (numbers, dates, etc.)	523–6641
Additional information	523–5230

Presidential Documents

Executive orders and proclamations	523–5230
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FEDERAL REGISTER PAGES AND DATES, AUGUST

41023–41170.....2
41171–41420.....3
41419–41620.....4

CFR PARTS AFFECTED DURING AUGUST

At the end of each month, the Office of the Federal Register publishes separately a List of CFR Sections Affected (LSA), which lists parts and sections affected by documents published since the revision date of each title.

3 CFR

Proclamations:
6583.....41169

5 CFR

Proposed Rules:
Ch. 21.....41193

7 CFR

319.....41124
944.....41124
1211.....41023
1728.....41394
1755.....41394
1980.....41171
3015.....41410
3051.....414102
Proposed Rules:
800.....41439
1211.....41203

9 CFR

318.....41138
320.....41138
Proposed Rules:
82.....41048
92.....41204

10 CFR

766.....41160
Proposed Rules:
12.....41061
766.....41164

12 CFR

703.....41419

14 CFR

39.....41172, 41174, 41175, 41177, 41179, 41419, 41421
71.....41181
Proposed Rules:
39.....41066, 41210, 41441, 41442, 41444
71.....41211, 41212
73.....41214
255.....41068

15 CFR

30.....41422
Proposed Rules:
295.....41069
500.....41215

16 CFR

306.....41356

18 CFR

Proposed Rules:
36.....41074

19 CFR

4.....41422
122.....41422

20 CFR

416.....41181

21 CFR

73.....41024, 41182, 41183
74.....41183
210.....41348
211.....41348
520.....41024
524.....41024
Proposed Rules:
103.....41612

23 CFR

1200.....41025
1204.....41025
1205.....41025

24 CFR

50.....41328
200.....41328
203.....41328
204.....41328
791.....41426
Proposed Rules:
200.....41445

25 CFR

16.....41038

30 CFR

914.....41039

31 CFR

Proposed Rules:
209.....41449

33 CFR

100.....41428
175.....41602
181.....41602
Proposed Rules:
100.....41449

36 CFR

Proposed Rules:
21.....41325

40 CFR

52.....41430
141.....41344
186.....41430
Proposed Rules:
52.....41218, 41451
180.....41452

43 CFR

3730.....41184

3820.....41184
3830.....41184
3833.....41325
3850.....41184

44 CFR

Proposed Rules:
351.....41154

45 CFR

301.....41432
303.....41432

46 CFR

160.....41602

47 CFR

0.....41042
69.....41184
73 (5 documents).....41045, 41046
76.....41042

49 CFR

Proposed Rules:
531.....41228
552.....41077
571.....41078

50 CFR

17.....41378, 41384
646.....41438
672.....41438
625.....41191
672.....41191
675.....41325

Proposed Rules:
17.....41231, 41237
226.....41454

LIST OF PUBLIC LAWS

Note: No public bills which have become law were received by the Office of the Federal Register for inclusion in today's List of Public Laws.

Last List August 3, 1993

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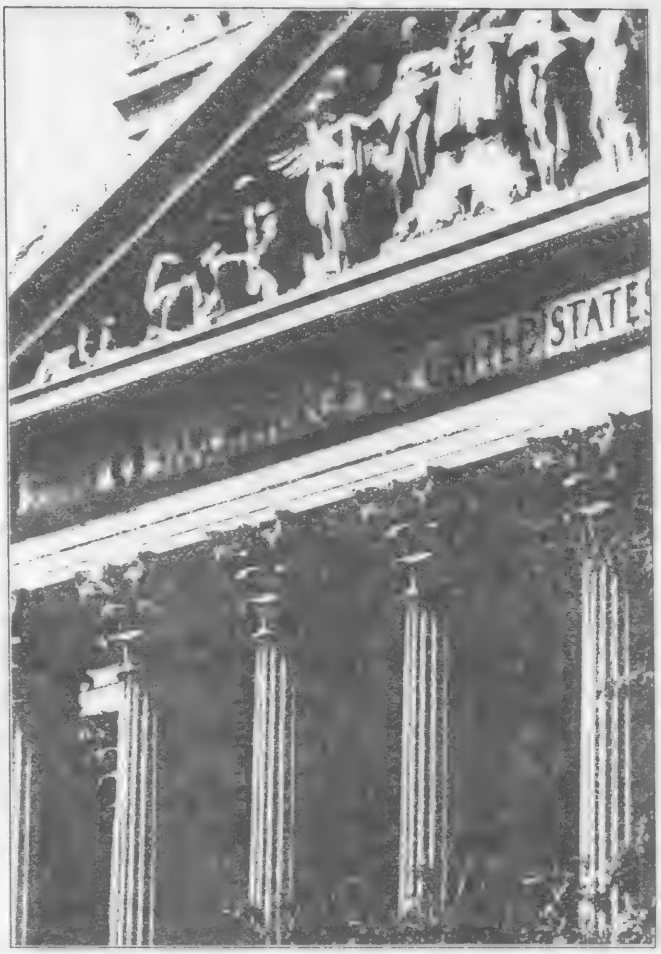

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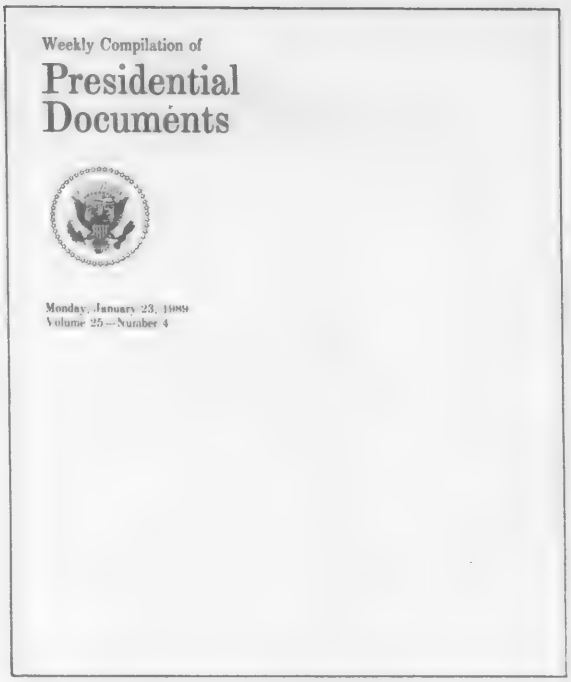

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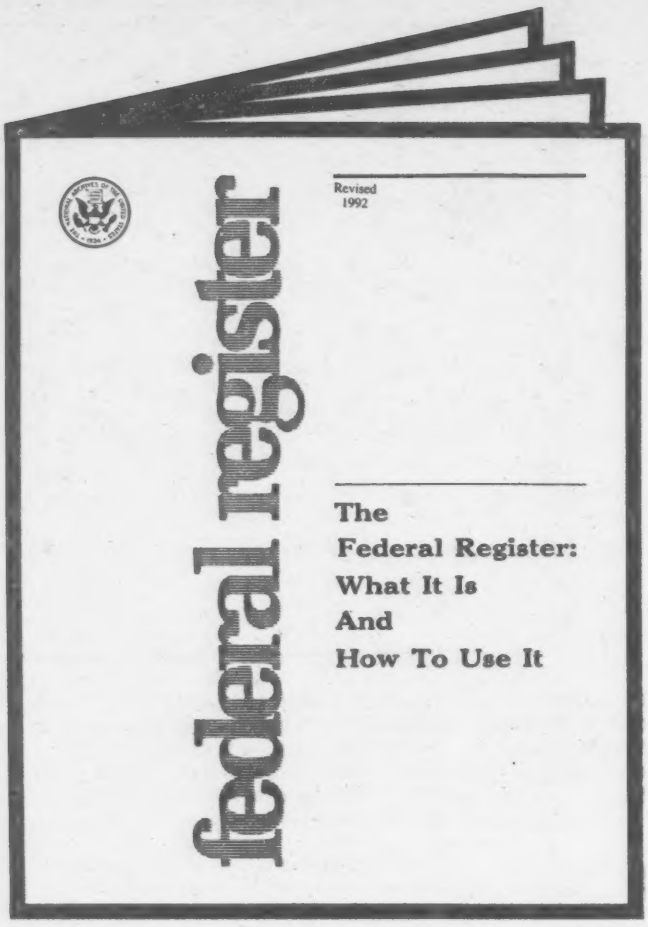

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